



**Jimma Institute of Technology**  
**Faculty of Computing and Informatics**  
**Department of Information Science**  
**Master of Information Science (IKM Stream)**

Exploration of Indigenous knowledge for Conflict Management and  
Application System Development for Communities in Southwest  
Ethiopia

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**MSc. IN INFORMATION SCIENCE (IKMStream)**

Exploration of Indigenous knowledge for Conflict Management and  
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Ethiopia

A Thesis Submitted in Partial Fulfillment of the Requirements  
for Degree of Masters of Science in Information Science  
(Information and Knowledge Management)

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**October, 2019**

**Jimma, Ethiopia**

## DECLARATION

I declare that this thesis is my original work and it has not been presented for a degree in any other universities. All the material sources used in this work are duly acknowledged.

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October, 2019

This thesis has been submitted to the department for examination with our approval as university advisors:

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## **DEDICATION**

I would like to dedicate this research to the people who lost their precious life because of recent conflict occurrences in the world, African and Ethiopia.

## **Acknowledgment**

I would like to express my heartfelt and sincere gratitude to my Principal Advisor Worku Jimma (PhD) for his diligent assistance, important and constructive comments, suggestions and advice, and dedication of his precious time in reading and correcting this research starting from the beginning of proposal writing. My appreciation also goes to my co-advisor Elsabet Wedajo (MSc) for her valuable support, constructive comments, suggestions and advices in coordination with the principal advisor and independently.

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## **Abstract**

*The main aim of this study was to explore indigenous knowledge for conflict management of some communities in southwest Ethiopia and to develop a web-based system for its preservation and dissemination. The study adopted a qualitative research approach for exploring IK using focusgroup discussion, interview and observation. Questionnaires were used for quantitative data collection. Drupal version 7.6 installing on xampp local host server was used for application system development. In this study the target populations were from Mana woreda and Marego woreda. The total inhabitants were around 257,995. The reason to select those study sites was that they possess experience of successful conflict management through traditional manner. The findings in this study showed that there exists long time trend among Mana and Marego woreda people to manage their conflicts mostly through traditional mechanisms such as “Jaarsummaa” and “Raga-Mara”. The communities have a belief that traditional mechanisms are much better than the modern court procedure, it is possible to produce win-win result which is influential for dispute parties’ future friendly and family relationship, easily accessible, time saving, less costly, no perjury tolerated and vital for social stability. Data collected during the study from local organizations’ employees indicated that out of the total respondents 94 (96.9%) of them were familiar with the practices of such indigenous knowledge, but 91 (93.8%) of them indicated that they had never used traditional manner of conflict management web-application system. A web-based system that preserves the actual conflict management mechanisms was developed in a local host server, the system has a features that facilitates the access of files and documents for users according to their role; a means to share practices of conflict management in different areas; alert sending form that enable users to share possible occurrences of conflict and a way to redirect users to related topics in order to download files. The study revealed that traditional manner of conflict management plays vital role for settling peaceful environment within the communities of southwest Ethiopia. So system development that uses new technology for its preservation and dissemination especially to youth is recommended, in addition the future studies should work in exploring uncovered study areas and developing android application system in preserving the IK.*

## Table of Contents

DEDICATION .....	I
Acknowledgment .....	II
<i>Abstract</i> .....	III
Abbreviation and Acronyms .....	iv
List of Tables .....	v
List of Figures .....	vi
CHAPTER ONE .....	1
1. INTRODUCTION .....	1
1.1. Background .....	1
1.2. Statement of the Problem .....	5
1.3. The Research Questions .....	7
1.4. The Objective of the Research .....	7
1.4.1. General Objective .....	7
1.4.2. Specific Objectives .....	7
1.5. Significance of the Study .....	8
1.6. Scope and Limitation of the Study .....	9
1.7. Operational Definitions .....	9
CHAPTER TWO .....	11
2. LITERATURE REVIEW .....	11
2.1. Knowledge .....	11
2.2. Knowledge Management .....	12
2.3. Indigenous Knowledge .....	13
2.4. Indigenous Knowledge for Conflict Resolution .....	14
2.5. Indigenous People .....	15
2.5.1. Characteristics of Indigenous People .....	16
2.6. Importance of Indigenous Knowledge for Conflict Management .....	17
2.7. Role of Technology in Preserving and Disseminating IK .....	18
2.8. Related Works .....	19
2.9. Conceptual Framework .....	24
CHAPTER THREE .....	26
3. MATERIALS AND METHODS .....	26
3.1. Research Design .....	26

3.2.	Description of the Study Area.....	26
3.3.	Sources of Data .....	28
3.3.1.	Primary Data Sources.....	28
3.3.2.	Secondary Sources .....	28
3.4.	Sample Size.....	29
3.5.	Sampling Method.....	29
3.6.	Data Collection Instruments.....	29
3.6.1.	Questionnaire .....	30
3.6.2.	Semi-Structured Interviews.....	30
3.6.3.	Focus Group Discussion .....	30
3.6.4.	Observation .....	31
3.7.	The Procedure of Data Collection.....	31
3.8.	Methods of Data Representation.....	31
3.9.	Methods of Data Analysis.....	31
3.10.	TMCM Web-Based System Development.....	32
3.11.	Ethical Consideration.....	33
CHAPTER FOUR.....		34
4.	RESULT AND DISCUSSION .....	34
4.1.	Quantitative Result.....	34
4.1.1.	Demographic information .....	34
4.1.2.	Practices of INCM in the community .....	38
4.1.3.	IKCM Preservation System Usage.....	38
4.1.4.	Problem in preservation and exchange of IKCM.....	38
4.1.5.	Organizational Initiatives .....	39
4.1.6.	Lack of Application System Impact.....	39
4.1.7.	Use of Application System .....	40
4.1.8.	System Features .....	41
4.1.9.	Suggestion of System Owner.....	42
4.2.	Focus group discussion result .....	43
4.2.1.	Explanation about IKCM.....	43
4.2.2.	Categories of Conflicts in the Community.....	45
4.2.3.	Methods Used for Resolving Conflicts in Each Category .....	46
4.2.4.	Causes of Most Conflicts in Current Days.....	47



4.2.5.	Action Taken if the Disputes Reject the Decision of the Elders .....	47
4.2.6.	Expected Action of the Disputant once Agree on Decision of Elders .....	48
4.2.7.	TMCM local name, proverbs and trends.....	48
4.2.8.	Advantage of TMCM to modern means and perception by young generation .....	50
4.3.	Interview Report .....	51
4.3.1.	Educational status of the elders.....	51
4.3.2.	Conflict Management Experience.....	52
4.3.3.	Representing of a Community Group .....	52
4.3.4.	About Obtaining Knowledge of Resolving Conflicts .....	52
4.3.5.	Preserving and Exchanging the KCM to Young Generation .....	53
4.3.6.	Relationship to the Royal Family.....	54
4.4.	Observation Report .....	54
4.5.	Framework and Architecture .....	55
4.5.1.	Conceptual framework.....	55
4.5.2.	Architecture Design .....	57
4.6.	Major Findings of Results.....	58
4.7.	Web-based System Development .....	59
4.7.1.	Feature of the System.....	60
4.7.2.	Online evaluation of the application system .....	67
4.8.	Discussion .....	68
CHAPTER FIVE .....		71
5.	Conclusion and Recommendation .....	71
5.1.	Conclusion .....	71
5.2.	Recommendation .....	72
References.....		74
Appendix A.....		78
Appendix B.....		84
Appendix C.....		87

## **Abbreviation and Acronyms**

AU	African Union
CBD	Convention on Biodiversity
EACC	Ethiopian Arbitration and Conciliation Center
ICRMs	Indigenous Conflict Resolution Mechanisms
ICT	Information Communication Technology
IK	Indigenous Knowledge
IKCR	Indigenous Knowledge for Conflict Resolution
IPSS	Institution for Peace and Security Studies
IS	Information System
PDRM	Popular Dispute Resolution Mechanisms
KB	Knowledge-based
KM	Knowledge Management
SNNPR	Southern Nation, Nationality and Peoples Region
VOA	Voice of America

## List of Tables

Table 1: Responses in terms of organization name in the woreda.....	34
Table 2: Responses in terms of age group in woreda distribution.....	35
Table 3: Responses in terms of experience and gender.....	36
Table 4: Educational level of Responses.....	37
Table 5: Responses in terms of job title/position.....	37
Table 6: Organizational initiative in terms of approach used and current status.....	39
Table 7: Responses related to system features.....	41
Table 8: Suggestion of system owner.....	42
Table 9: Result from observation.....	54

## List of Figures

Figure 1: framework for TCMC.....	24
Figure 2: lack of system impact .....	40
Figure 3: Use of application system responses .....	40
Figure 4: Architecture of the TCMC.....	58
Figure 5: Home page of the system .....	61
Figure 6: User account page .....	62
Figure 7: User profile page .....	63
Figure 8: File accessing page.....	64
Figure 9: File downloading in video format page.....	65
Figure 10: File uploading page .....	66
Figure 11: File selection to be uploaded and save page.....	66
Figure 12: File search page .....	66
Figure 13: Feedback access page .....	67
Figure 14: Resulted framework for TMCR system .....	56

# CHAPTER ONE

## 1. INTRODUCTION

### 1.1. Background

The word indigenous, traditional or local knowledge make reference to knowledge and know-how that is accumulated over generations and guides human societies in their innumerable interactions with their surrounding environment. Indigenous knowledge is considered the social capital of the poor. It is the communities' main wisdom to invest in the struggle for survival, to produce food, to provide for shelter and to achieve control of their own lives. Most of the indigenous knowledge disappears due to the intrusion of foreign technologies and development concepts that promise short-term gains or solutions to problems without being capable of sustaining them (Senanayake, 2006).

As Berkes (2012), defines such traditional, ecological knowledge "a cumulative body of knowledge, practice, and belief, evolving by adaptation processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with their environment". An abundance of labels for IK co-exists in the literature. Common names include, but are not limited to indigenous knowledge, traditional knowledge, traditional ecological knowledge, local knowledge, farmers' knowledge, folk knowledge, and indigenous science or ethno science. Although these terms have different connotations, they share sufficiently consistent meanings (Ajayi et al., 2017).

Indigenous knowledge (IK) is used at the local level by societies as the basis for decisions pertaining to food security, human and animal health, education, natural resources management, and other fundamental activities. For these reasons, the potential contribution of IK to locally manage, sustainable and cost-effective survival strategies should be promoted in the development process. Indigenous people can provide valuable input about the local environment and how to effectively manage their natural resources (Chikwanhaet al., 2011). Many elderly people especially those who have some involvement in social integration institution in their previous life experience are practically equipped with the kind of knowledge that not many

people get the chance to possess. This kind of treasure usually is the main resource to find a solution for taking the community's problem from a diversified field of discipline(Gorjestani, 1998).

According to Senanyake (2006), knowledge management is a systematic process for acquiring, organizing, sustaining, applying, sharing, and renewing both tacit and explicit knowledge. It also enhance the organizational performance, increase organizational adaptability, increase values of existing products and services, and/or create new knowledge-intensive products, processes, and services. Knowledge management (KM) is the process of making relevant information available quickly and easily for people to use productively. For KM to move from ideas to implementation, the definition of KM needs to address: creating, sharing, and reusing knowledge; understanding the relevance of different information as determined by the customer; training for KM methods and services; incorporating cultural aspects of KM into operations; and responding to funding and chargeback issues(Senanayake, 2006).

As development in a national level needs new kind of technological invention in different sectors, the community also tends to follow and try what is new not only to cope up with the rest of the world but also to be competent and develop a winning mentality. So the new generation is ready and eager to encompass those characteristics, there has to be a study in indigenous knowledge which will be suitable for finding a solution as putting a foundation to the continual development of the country involving the community by making them believe that the potential development comes with the development of technology.If we are to understand, learn how to handle conflict successfully, it is fundamental for us to become familiarwith our own cultural value about nature of conflicts and conflict resolution mechanisms(Berhane, 2014).

One of the characteristics of indigenous knowledge described bySenanayake(2006) is that “indigenous knowledge is local because it is rooted in a particular place and set of experiences, and generated by people living in those places”. The other is “indigenous knowledge is characteristically shared to a much greater degree than other forms of knowledge”. Therefore, it is sometimes called “people’s science”. However, its distribution is still seminary and socially clustered. It is usually asymmetrically distributed within a population, by gender and age and

preserved through distribution in the mind of different individuals. Specialists may exist by virtue of experience(Senanayake, 2006).

Thus, indigenous knowledge is context-specific and embedded in the everyday practices of the members of a community according to Banuri and Marglin(1993),IK has historically been excluded from scientific models that have their origins in Western concepts of rationality, on the assumption that it is inferior. Consequently, it has not been seriously considered in domains such as state planning and the design of information system (IS) applications. Today, in the context of socioeconomic development, such marginalization of indigenous knowledge is, to a certain extent, gradually being reversed. This change of perspective is due to various factors, for instance, changes in the politics of development aid, instances of the breakdown of technology-driven applications,such a formal recognition is by itself a step forward(Puri, 2007).

The logical challenge is to theoretically understand how the above multiplicity of knowledge systems may be drawn upon to produce applicable “hybridized or mixed” knowledge. Specifically, scientists, system developers, software engineers, and local departmental managers must be brought to recognize the importance of indigenous knowledge(Puri, 2007).Such hybridization (mix)will show the acquisitions of knowledge from indigenous people and combine with scientific knowledge via technological innovations.

The supporting behavior of technological innovation is that it providesa way of interaction between different knowledge such as IK and scientific knowledge using ICT tools. Ensuring the existence of the IK and preserving it for social development use mainly guaranteed by the ICT enhanced through different communication and digital electronic tools, which are TV, Radio, telephone and hardware, and software.Such kinds of technology have an essential part in connecting the community to the governmental institution, the modern world and initiate the development process(Muchena, 2000).

For implementing the task of ICT in preservation of indigenous knowledge to be forwarded a baseline will be maintained.Explorations of the indigenous knowledgewill be studied first and disclosed to the community by the researchers and scientists who are concerned on the

transformation of knowledge, system designers and developers will also play their part in inculcating the indigenous knowledge system into the society, design and ensure it reaches the young generation for presenting it using communication technology. ICTs facilitate the chances for gathering data about crime and conflict and reduce the gap between warning and response (Mancini, 2013).

Ethiopia is one of the developing countries in which most people are from different racial groups living integrally through marriage and relatives in essence of thinking among them. The remarkable fact about the people is the way of keeping, teaching and forwarding the most valuable traditional way of living system using indigenous knowledge to the emanating new generation in diversified activities such as how to protect the natural resources, preparing traditionally made medicine to those who needed, how to resolve conflicts, how to construct traditional houses, how to do traditional farming in order to support the economy of the country, and so on. Use of indigenous conflict resolution mechanisms (ICRMs) in Ethiopia is deeply rooted in the culture, custom, and tradition of various racial groups, which could play a big role in resolving violent conflict (Mekonnen, 2016).

Among the indigenous knowledge practiced in Ethiopia is the traditional manner of conflict resolution, conflict is a natural phenomenon in the life of human beings which occurs in the relation of interaction for socio-cultural, economic and political purposes. The universe itself revolves through conflict. Thus, conflict is impossible to avoid from the life of human beings rather treat in a positive way for functional outcomes as Džuverović (2011) pinpoints that conflict is an integral part of our lives. According to Osaghae (2000) who is also referred to by Tafese's work, the conflict could occur between people of different communities normally over the mentality of rights ownership of natural resources and raid of live-stock. As a result, states provide a western model of conflict resolutions to minimize the destructive features of conflict in the communities (Osaghae, 2000). Traditional societies also develop conflict management mechanisms through their cultural perceptions. Accordingly, many African societies have traditional institutions to apply indigenous knowledge and laws to settle all types and levels of conflict (Tafese, 2016).



Nakata (2014) described vast improvements in digital and virtual technologies now provide a range of new opportunities for many to renew their traditional knowledge interests. Management of indigenous knowledge can be enhanced by information communication technology in that it facilitates the process of capturing, storing, preserving, distributing, using and finally reusing the knowledge in which the new generation could be able to acquire the necessary information and forward it to the next generation. Thus, this study was initiated with the main objective to explore indigenous knowledge for conflict management in some communities in southwestern Ethiopia and to manage it by developing a web-based application system for its preservation and transfer.

## **1.2. Statement of the Problem**

According to Oluwaseun (2012), in the last 20 years, there has been an increase in the frequency of occurrence and the scale of conflicts around the world. These conflicts have been mainly as a result of political up-rising, ethnic and religious intolerance, terrorism, scramble for resources, and growing inequality amongst the populace. This issue is typical to the current situation in Ethiopia. Traditional African societies are closely attached to deep-rooted cultural facts and elders play major roles to solve problems, create strategies and shape local visions based on skills and wisdom. To do this, they use their past experience and knowledge which has been transmitted from generation to generation. That accumulated knowledge of elders is indigenous knowledge which is cultivated from the local community. Therefore, elders apply their indigenous knowledge for development planning as well as solving social problems (Tafese, 2016). So as much as the existence of IK that manage the occurred conflict, the prevalence of conflicts rose in type and amount. Moreover, those conflicts were not managed appropriately in shorter period of time.

The biggest challenge that is confronting humans today is not about the occurrence of conflict but how these conflicts are fully managed whenever they occur to prevent them from further escalating. Conflict will continue to exist with humanity since problems like death, are inevitable. The inevitability of conflicts, however, becomes pathological to society depending on the type and nature of the resolution methods used. Many a time, the intervention mechanisms to a conflict right from its onset can be problematic and therefore can be a source of the conflict itself. Conflicts often occur within a certain political, economic, social and cultural milieu. Today, many of the conflicts that occur called 'new wars' are more internal, none- conversational

and culture-sensitive (Kaldor, 2007). Many of these ‘new wars’ need intervention mechanisms that are culturally-based and relate to their environment of occurrence(Bukari, 2013).

Indigenous conflict management mechanisms comprise social, economic, cultural and religious-spiritual dimensions in accordance with the entirety of traditions, customs and worldviews of a society within the different spheres of societal life. The methods involve negotiations, mediations, and reconciliation based on the knowledge, customs, and history of the community. The process is led by leaders of the community such as traditional chiefs, kings, priests, healers, elders, and other tribal leaders and takes the forms of rituals in which the whole community takes part in it. Conflict management aids on identifying the main causes of conflict so as to put an end to the conflict to ensure sustainable peace(Bukari, 2013). On the contrary the community is not acknowledging and using the TCM ways and/or due to some reason such practice is losing its importance.

As far as the shortcomings of traditional conflict resolution are concerned, according toEbissa(2014)and referencethere, the traditional ways of conflict resolution are oral practices and has no documentation. Thereby leading to some problems, besides, they lack enforcement mechanism (Endalcachew *et al*, 2015). Even though explorations of indigenous knowledge in various sectors such as resource management, formulation of medicine, farming cultivation, conflict management and so on are available from literature review in any part of the country, as the knowledge of the researcher little effort is made in preserving it via technological tools and communication system. The new technology with the appropriate application can be used for the exploring and develop software with which indigenous knowledge can play its role to the economic development of the country.

IK is still important among local communities in many parts of Africa and the global scientific community acknowledges its value, but it is not well documented and is in danger of being lost as its custodian pass away(Ajayi *et al*, 2017). Sithole(2007) argues that documentation is a way to protect indigenous knowledge from exploitation by actors other than its true originators(Haider *et al*, 2010).

In Ethiopia, currently there are a lot of indigenous knowledge practices almost in all parts of the country but so far there is no system in place to preserve such knowledge for the future generation especially in the traditional way of conflict management as of the articles reviewed by the researcher. This means we need to have a system that preserve and transfer the knowledge on the traditional manner of conflict management for the sake of keeping the knowledge from being lost, hence the living condition and mode of life of the future generation is not conducive for the normal persistent of this indigenous knowledge and hence this study will address this gap and initiated to answer the following research questions:

### **1.3. The Research Questions**

All the above problems as mentioned in the statement of the problem need to be given attention and this study tried to answer the following research questions.

1. How the indigenous knowledge for conflict management can be identified from the selected communities?
2. How the elders manage conflicts using the traditional manner of conflict management?
3. What are the requirements for the web-based system that can be used to preserve and transfer the knowledge to future generation?
4. How to develop a web-based system of indigenous knowledge for conflict management?

### **1.4. The Objective of the Research**

#### **1.4.1. General Objective**

The general objective of this study was to explore indigenous knowledge for conflict management from communities in southwest Ethiopia and to develop a web-based application system for its preservation and transfer.

#### **1.4.2. Specific Objectives**

- ❖ To identify indigenous knowledge for conflict management of Mana and Mareqo woreda communities on how they manage the conflict using the traditional manner of conflict management.
- ❖ To identify the requirements for indigenous knowledge system for conflict management in order to preserve and transfer the knowledge.

- ❖ To develop a conceptual framework for traditional manner of conflict management.
- ❖ To design architecture of an application system for indigenous knowledge for conflict management.
- ❖ To develop a web-based system for indigenous knowledge of conflict management.

## 1.5. Significance of the Study

This study was significantly important in enhancing managing of conflicts which is currently becoming very difficult in day to day living environment of the society. Identifying the conflict among communities and applying major indigenous knowledge or using it to manage conflict with the society is what is highly needed nowadays. The economy of a nation could not be sustained without peaceful environment, secured and free movement of people from place to place and assured peaceful working environment is the determinant factors for the normal growth and development of any country. As the ministry of peace is coming to action in our country as a new ministry office, such system could contribute to well-functioning and performing its responsibility as well as initiate usage of such indigenous knowledge by the ministry. So this study showed the role it contributes by exploring, preserve and exchange indigenous knowledge cultures from the community to the communities' young generation for developing peace.

The policymakers are also expected to be benefited from this study because it will help to facilitate the way of resolving conflict and acquire the direction in creating and drawing policies. More importantly, this study was about connecting people especially the young generation with the current technological advancement to get more approved information that can be used as a means of accessing IK and used as a reference in the process others could get to know what cultural value exists in various parts of the country.

In general, the study is significant from the following perspectives. First, it provided valuable knowledge about the role of indigenous conflict management mechanism plays among society. Second, it revealed the preference of people related to conflict settlement mechanisms options and the rationale behind it. Third, the finding of the study could be used by concerned bodies such as legislative to consider and preserve indigenous knowledge and its values. Further, the

results of the study adds literature document on indigenous way of conflict management from southwestern Ethiopia.

## 1.6. Scope and Limitation of the Study

This study focused only on the exploration and development of web-based system on indigenous knowledge for conflict management of some communities in southwest Ethiopia. Traditional manner of conflict management namely, how elders accept and exercise IK during the process of bringing peace or agreement and how they undertaken ritual of conflict management task when a conflict arises at the study sites, i.e., Oromia Region Jimma Zone, Mana Woreda and Southern Nation and Nationality People Regional State (SNNPRS), Gurage zone, Mareqo Wereda. However, there are so many ethnic groups in Ethiopia that have their own way of managing conflicts in traditional manner.

This study was challenged by accessing research document which is conducted with aim of integrate work of exploring and system developing for preservation IK. As the researcher knowledge there is no an article or book written on both research areas at same time, thus it was difficult review such document. Moreover, there was a difficulty of finding the elders from Mana woreda, Gara-Muletakebele as the planed time, cooperating during FGD was less due to current situation of the country. Thus the researcher was forced to collect the audio data with some disturbing sound in the background at time of focus group discussion.

## 1.7. Operational Definitions

**Knowledge:** Knowledge is defined as the remembering of previously learned material. This may involve the recall of a wide range of material, from specific facts to complete theories, but all that is required is the bringing to mind of the appropriate information.

**Knowledge management:** The capability to build profits and market share by implementing the idea of knowledge and know-how.

**Indigenous knowledge:** Broadly speaking, the knowledge used by local people to make a living in a particular environment, terms used in the field of sustainable development to designate this concept include indigenous technical knowledge, traditional environmental knowledge, rural knowledge, local knowledge and farmer's or pastoralist's knowledge.

**Indigenous people:** Indigenous people are the original inhabitants of a particular geographic location, who have a culture and belief system distinct from the international system of knowledge, e.g. the Tribal, Native, First, or Aboriginal people of an area.

**Conflict:** conflict is a natural phenomenon in the life of human beings which occur in the relation of interaction for socio-cultural, economic and political purposes. It is used to refer to inconsistencies in the motions, sentiments, purposes, or claims of entities, and sometimes to the process of resolving these inconsistencies. It is also a situation in which two or more human beings desire goals which they perceive as being obtainable by one or the other.

**Conflict Management:** refers to interventionist efforts geared towards preventing the escalation and negative effects, especially violent, ones of ongoing conflicts.

**Conflict resolution:** is the process of attempting to resolve a dispute or a conflict.

**Traditional conflict resolution:** as Bahta(2014), and some other scholars' find different meaning, some of them are, traditional institution of conflict resolution; traditional justice systems; non-state laws; customary dispute resolution mechanisms; restorative justice; and alternative dispute resolution but he chooses to call it popular dispute resolution mechanisms.

**Indigenous conflict management mechanisms:** refer to community-based conflict mitigation, traditional mediation, and grassroots approaches to peace.

**Preservation:** An activity within archiving in which specific items of data are maintained over time so that they can still be accessed and understood through changes in technology.

## CHAPTER TWO

### 2. LITERATURE REVIEW

#### 2.1. Knowledge

According to Uriarte (2008) knowledge is defined as the remembering of previously learned material. This may involve the recall of a wide range of material, from specific facts to complete theories, but all that is required is the bringing to mind of the appropriate information. Information is capable to become knowledge; when it is further processed and when one finds a pattern relation existing among data and information, and when one is able to realize and understand the patterns and their implications, and then this collection of data and information becomes knowledge. Tacit knowledge and explicit knowledge are two types of knowledge. The first type is stored in a person's brain but the second knowledge is stored in documents or other forms that is not in human brain. Both types of knowledge can be produced as a result of interactions or innovations; they can be the outcome of relationships or alliances.

The relationship between the two types of knowledge is captured in four different ways: socialization, which involves the conversion from tacit knowledge to tacit knowledge; externalization, which involves the conversion from tacit knowledge to explicit knowledge; combination, which summarizes the conversion from explicit knowledge to explicit knowledge and internalization, which refers to the conversion from explicit knowledge to tacit knowledge. While tacit knowledge is action-based, explicit knowledge is the kind of knowledge that can be codified and is therefore more easily communicated and shared (Iuga, 2014).

The value of knowledge is derived from the value of the decisions with which it is associated. Since knowledge may be an organization's only sustainable competitive advantage, the explicit knowledge can be delivered via structured media like books and documents, but delivery of the tacit knowledge is through mechanisms of socialization, mentor ships, apprenticeships, face-to-face communication. It is very important to capture tacit knowledge. It often moves laterally through informal channels of communication (communities of practice) (Gerami, 2010).

The new paradigm is that within the organization knowledge must be shared in order for it to grow. It has been shown that the organization that shares knowledge among its management and staff grows stronger and becomes more competitive (Uriarte, 2008). According to Chala and Worku (2016), work about knowledge sharing practices, said that knowledge sharing within organizations may cause wonderful interactions, especially for knowledge intensive organizations like healthcare sectors (Chala and Worku, 2016). Knowledge contributors and seekers who share common interest areas usually come together (online or in person), forming what is generally called “communities of practice”, to help each other by sharing tips, ideas and best practices. Since the critical success factor of communities of practice is very much depending on perpetual knowledge generation and sharing, cultivating communities of practice could be an effective mechanism to promote the knowledge sharing culture within institutions of higher learning in Ethiopia (Rahel and Ermias, 2011).

## **2.2. Knowledge Management**

Knowledge management is a systematic process for acquiring, organizing, sustaining, applying, sharing, and renewing both tacit and explicit knowledge to enhance the organizational performance, increase organizational adaptability, increase values of existing products and services, and/or create new knowledge-intensive products, processes and services. Understanding the culture is a key issue for the successful implementation of knowledge management. The existing culture can amplify or inhibit knowledge management projects (Gerami, 2010).

Knowledge management involves, among others, the identification and mapping of intellectual assets within an organization. This basically means identifying who knows what within the company. When viewed from this perspective, knowledge management can be considered as a process of performing an audit of intellectual assets focusing on the organization’s unique resources and their crucial functions. But knowledge management goes beyond this level of mapping. More substantively, it also involves the creation of knowledge for competitive advantage and the conversion of large amounts of organizational data into readily accessible information. Through knowledge management latent points of congestion that hinders the flow of knowledge towards decision and action can be identified. And with the application of ICT, all



the different aspects of knowledge management can function in a seamless and coordinated manner (Uriarte, 2008).

### 2.3. Indigenous Knowledge

Indigenous knowledge is unique to a given community, culture or society. Communities use indigenous knowledge at the local level as a basis for decision making pertaining to food security, human and animal health, education and natural resources management. Very little of this knowledge has been recorded, yet it represents an immensely valuable database that provides humankind with insights on Clarion University of Pennsylvania, Clarion, Pennsylvania how numerous communities have interacted with their changing environment including its floral and faunal resources (World Bank, 1997).

Almost all the development actors have now recognized the value of participatory approaches in decisionmaking for sustainable development. Indigenous knowledge provides the basis for grassroots decision-making. Based on earlier studies it was found that the indigenous knowledge of ecological zones, natural resources, agriculture, aquaculture, forest and game management is far more sophisticated than previously assumed (Senanayake, 2006).

Since attaining independence in the 1950s and 1960s, many African states have done little to explore ways to re-empower indigenous systems that were systematically degraded during the colonial era. Rather, post-colonial elites that took power from colonial masters made rapid efforts to align states with capitalist and socialist order of imperial powers in a bid to meet up with so-called international standards (Ani, 2017). In fact, colonialism portrayed indigenous knowledge, religion, and practices as primitive and irrational expressions of an inferior race. The coverage of Africa in most literature and known media networks in the post-colonial era continue to lean on unconstructive practices in such a way that many Africans also feel negatively about their traditional values. This is evident in the way Africans tend to depend on external actors for solutions to their contemporary challenges (Ani, 2017).

Utilizing indigenous knowledge in research projects and management plans gives it legitimacy and credibility in the eyes of both indigenous people and outside scientists, increasing cultural

pride and thus motivation to solve local problems with local inventiveness and resources. Local capacity building is a crucial aspect of sustainable development, and researchers and development specialists should design approaches, which support and strengthen appropriate indigenous knowledge and institutions(Chikwanha et al, 2011).

## **2.4. Indigenous Knowledge for Conflict Resolution**

Like other traditional African countries, different ethnic groups in Ethiopia have developed and practiced their own customary codes and traditional institutions to manage conflicts. Among the different ethnic groups of Ethiopia, the Oromo, as the major ethnic group in the country, with a large number of population's size and settlement areas hold a variety of traditional knowledge and culture(Girum, 2010).Traditional conflict resolution mechanisms have a vital role in social stability as solutions are given based on social norms. These mechanisms take into account not only facts but also the values involved in the dispute. Hence, when the dispute is resolved conflicting parties will reconcile not only with each other but also with the social value they have deviated. By considering the values and norms of the society they can create a better solution(Muchie et al, 2015).

Mekonnen (2016) referring Dagne and Bapu(2013), discussed Indigenous conflict resolution mechanism which emanates from the custom of the people as practiced over a long period, accepted by the community as governing principle, and hence binds the society, a breach of which entails social reaction and even punishment.Abera (2000) argued that these indigenous conflict resolution institutions of different ethnic groups were the major body of law in Ethiopia for centuries. The use of indigenous conflict resolution mechanisms in Ethiopia is deeply rooted in the custom, culture, and tradition of various ethnic groups, which could play a big role in resolving violent conflict(Mekonnen, 2016).

Kifle(2007) explained that the existing body of literature confirms that the nature and causes of conflicts and the mechanism for resolving them are deeply rooted in the culture and history of every society. While conflict is universal, the ways in which it is expressed and handled are not. If we are to learn how to deal with conflict effectively (our own and others), it is necessary for us

to understand our cultural assumptions about conflict and conflict resolution mechanisms(Berhane, 2014).

It is evident in that Solomon (2014) tried to investigate the indigenous mechanisms of conflict management in Tigray Regional State, particularly in the Erob community. This author opined that Ethiopian societies apply different customary mechanisms to resolve or manage the different forms of conflict that arise within their ethnic groups or nearby communities. Supporting this idea by referring Ephraim and Tarekegn(2008) that,conflict resolution mechanisms throughout Ethiopia, among them the ArsiOromo (*Jaarsabiyya*), the Amhara (*Yeager-Shimagle*), theGurage(*Yejewoka-Shengo*), the Wolayata(*Deira-Cimma*) and other linguistic or Ethnic groups looked up to and their role in reconciliation is highly regarded. The issue of conflict and its resolution is further elaborated by referring to practical examples from the different nations and nationalities of Ethiopia. For example, Tsega (2005) conducted his study on Luba-Basa, and Haram-Hodha: Traditional Mechanisms for Conflict Resolution in Metekel, west Gojam. The word Luba-Basa is translated as liberating or making free while the word Harma-Hodha refers to sucking the breast(Berhane, 2014).

## **2.5. Indigenous People**

Indigenous people are the original inhabitants of a particular geographic location, who have a culture and belief system distinct from the modern system of knowledge.Among the many challenging aspects of understanding indigenous peoples is the fundamental difficulty of defining just who is an indigenous person. The concept has been widely used and there is no consensus as to the precise meaning of the term. The attempt at inclusiveness left the central question unresolved, particularly when groups as diverse as Orkney Islanders (Scotland), Boers (South Africans of European ancestry), and Welshmen asserted their indignity. There is almost uniform agreement about certain cultural groups. First Nations/Native Americans of North America, the residents of the Amazon jungle, Inuit from the far North, and the indigenous peoples of Papua New Guinea. Scholars, activists, and politicians disagree about many others(Coates, 2004).

To complicate matters further, there are difficulties identifying the unique identities of specific cultural groups. Some identified as indigenous are, others argue, really subsets of another

culture. And the difficulty of identifying and describing small hunting-gathering societies has resulted, on occasions such as that involving the alleged Tasaday culture of the Philippines, in debates about the inclusion of a specific people as indigenous (Coates, 2004).

### 2.5.1. Characteristics of Indigenous People

The African Commission's work on indigenous peoples in Africa, 2006 outlined the key characteristics which identify indigenous peoples and communities in Africa. It does not aim to give a clear cut definition as there is no global consensus on a single universal definition. It is far more relevant and constructive to try to outline the major characteristics that can help identify who the indigenous peoples are. The Pygmies of the Great Lakes Region, the San of southern Africa, the Hadzabe of Tanzania and the Ogiek, Sengwer, and Yakubu of Kenya are examples of hunter-gatherer communities. Pastoralist communities such as the Pokot of Kenya and Uganda, the Barabaig of Tanzania, the Maasai, Endorois and Borana of Kenya and Tanzania, the Samburu, Turkana, Rendille, , the Karamojong of Uganda, the Himba of Namibia and the Tuareg, Fulani and Toubou of Mali, Burkina Faso and Niger can all be mentioned as examples of pastoralists who identify as indigenous peoples. The African peoples who are applying the term 'indigenous' in their efforts to address their particular human rights situation cut across various economic systems and embrace hunter-gatherers, pastoralists as well as some small-scale farmers (African Commission, 2006).

The Philippines is a signatory to the Convention on Biodiversity (CBD) which lays the internationally accepted standards on the protection of the rights and welfare of Indigenous Peoples in the conservation of natural resources within their territories. The CBD also provides a framework for the recognition of Traditional Knowledge Systems as an acceptable and viable option for the management of natural resources and the environment (Vera, 2007).

In the fact that lack of an agreed definition, there are criteria that can be used to define indigenous peoples. The main one is the criterion of self-identification and those proposed by José Martínez Cobo (2004) in his study of the problem of discrimination against indigenous populations, which include: historical continuity with pre-invasion and/or pre-colonization societies that developed on their territories; non-dominance; distinctiveness; and a determination to

preserve, develop and transfer to future generations their ancestral territories and identity as peoples in accordance with their own cultural patterns, legal system, and social institutions. The United Nations Permanent Forum on Indigenous Peoples has stressed out, in addition to the above: a strong link to provinces and surrounding natural resources; distinct social, economic or political systems; and distinct language, culture, and beliefs (Coates, 2004).

Many indigenous peoples populated areas before the arrival of others and often retain distinct cultural and political characteristics, including autonomous political and legal structures, as well as a common experience of domination by others, especially non-indigenous groups, and a strong historical and ongoing connection to their lands, territories and resources, including when they practice nomadic lifestyles. While the legal status of indigenous peoples is distinct from that of minorities, they are often, though not always, in the minority in the States in which they reside. Minorities and indigenous peoples have some similar rights under international law, although the United Nations Declaration on the Rights of Indigenous Peoples is arguably more comprehensive than international legal instruments associated with minorities (Nations, 2013).

## **2.6. Importance of Indigenous Knowledge for Conflict Management**

As the possible contribution of IK to key items on the global agenda gains broader recognition, an increasing number of scientists and policy-makers are enhancing and raise their voice for the integration of indigenous and science-based knowledge. Indigenous knowledge systems are the complex arrays of knowledge, know-how, practices, and representations that guide human societies in their innumerable interactions with the natural milieu: agriculture and animal husbandry; hunting, fishing and gathering; struggles against disease and injury; naming and explaining natural phenomena; and strategies for coping with changing environments (Roué et al, 2002).

According to Ayittey (1994), “outside attempts to resolve Africa's problems have regularly proven to be ineffective and even counterproductive”. He argues that Africans have to take a responsibility for the conflict resolution attempts in Somalia. Such is a recurring view in crises states such as Libya, Darfur and low-level conflicts across the continent of Africa. As Zartman (2000) stated concurs with this view by noting that despite the intervention of foreign seasoned

peacemakers and peacekeepers in the attempt to solve conflicts in Africa, many conflicts in the continent remain unresolved. During the July 2012 AU summit in Addis Ababa, Jean Ping, the former chairperson of the AU Commission stated that the solutions to African problems are found on the continent and nowhere else (Ani, 2017).

## **2.7. Role of Technology in Preserving and Disseminating IK**

Major efforts have been made to preserve IK in accessible forms through recording and documenting traditional knowledge, enabling the retrieval of knowledge in memory and current practice, and identifying and retrieving previously documented knowledge stored in institutions (Nakata and Langton, 2005). Vast improvements in digital and virtual technologies now provide a range of new opportunities for many to renew their traditional interests (Nakata, 2014).

ICT plays major role in improving the accessibility of indigenous knowledge systems and enhancing its blending with modern scientific and technical knowledge. ICT include telecommunication technologies such as telephony, cable, satellite, and radio, as well as digital technologies, such as computers, information networks, and software and hardware. The new information and communications technologies such as computers and the Internet can help to create wealth and jobs, build bridges and feel the gap between governments and citizens, forge relations among organizations and communities, and progress the delivery of much needed services to poor people. ICT can be used to store and disseminate indigenous knowledge so that traditional knowledge is preserved for the future generation; promote cost-effective dissemination of indigenous knowledge; create easily accessible indigenous knowledge application systems; promote the integration of indigenous knowledge into formal and non-formal training and education; provide a platform for advocating for improved benefit from IK systems for the poor (Muchena, 2000).

Although conflict resolution mechanisms prevention does not get the attention or funding it deserves on the global stage, the challenge will be advocated with the availability of new technological tools. ICT provide opportunities to collect data about crime and conflict and reduce the gap between warning and response. For example, crisis mapping, social media mapping, and crowd sourcing tools can help generate data on sources of conflict indicators. The data generated

from these tools can help identify patterns associated with conflict and peace in order to better inform conflict prevention efforts or to monitor violations of cease-fires or human rights. However, significant obstacles to use new technologies to prevent conflict remain. These tools may not be appropriate or effective in every conflict or context. Big data, for instance, come with significant threats, not just the threat of compromising privacy but also of threatening the security of individuals if the data fall into the wrong hands or that of exacerbating conflict if the digital divide parallels conflict cleavages (Mancini, 2013).

## 2.8. Related Works

A study by Baheta (2014), discussed about his finding as: high-ranking officials, organization heads, and researchers have acclaimed the harmonization and application of the popular dispute resolution mechanisms (PDRMs) in Ethiopia's justice system. In addition to acclamation they have sponsored forums, conferences and workshops; moreover, they sponsored scholars who conduct research on this initiative. But the researcher puts his worry about the absence of clear laws and policies related to the informal justice systems. This author recommended the establishment of a new regulatory organ at macro level to be capable and rightful to implement and bring PDRMs into line. It was suggested African PDRMs is very conducive due the following reasons; first westernized DRMs based on individual's philosophy, but African is on the philosophy of communalism; second is related to the recurrence of interstate wars, civil wars, and genocides that haunt its people; third is related to the familiarity of the PDRMs to the African people in relation to court proceedings.

It is believed that elders communicate with powerful spirits having influence on the disputants and even their descendants if they refuse to obey decisions or if they tell lies. The above three reasons made the researcher come to conclude that PDRM is a better means of investigating criminal or immoral offenses perpetrated in the absence of any evidence. For explanation he put concepts like: PDRM compensates for the absence of sophisticated forensic capability in the traditional communities; the proceedings are mostly carried out in a public manner; the wrongdoer, the victim and other members participate in the debates; and the procedures of PDRMs are more flexible as compared to those of the court proceedings. As a result, the government of Ethiopia has supported the establishment of an institution for Peace and Security Studies (Bahta, 2014).

As of the above article's findings, there is acknowledgement of popular dispute resolution mechanisms in the justice system of Ethiopia. This recognition create conducive environment for studies which is implemented with the objective of explore and document IK especially in managing conflicts. Findings of the article above can be used as input for this study in influencing higher officials in drawing new laws and policies by reveal the contribution of TCM in the justice system. In general, the article compares and contrasts the formal and traditional conflict management mechanisms using the advantages with which the community can be benefits from traditional way. But it does not include disclosing the overall ritual of conflict management process looks like. Thus it is the main aim of this research to fill such gap in addition to other necessary tasks which is preserving and sharing TCM.

Another article by Enyew (2014) stated that customary dispute resolution mechanisms (CDRMs) of Ethiopia. As much as the CDRMs are playing a role in resolving crimes and maintaining peace and stability, they are not recognized by law and not properly organized. In this article, the author asserted that the strength of many Ethiopian customary norms. Among the strengths disputant are recommended to go to the customary dispute resolution mechanisms just for making peace and resolve the act of revenge even after taking their punishments from the court. The article pinpoints that in the Constitution of the EFDR (2002), customary and religious institutions are given a constitutional right to handle personal and family matters if the conflicting parties give their consent to get a decision by these institutions. But the constitution limits those institutions to handle only private and family matter rather than their involvement in criminal matters. The main aim of study was to explore the "de jure" and "de facto" mandates of the Ethiopian customary dispute resolution mechanisms in criminal matters and their compatibility with the values and principles of restorative justice. As a methodology, relevant literature, interview, and analysis of pertinent legislations were used (Enyew, 2014).

The article's aim to show mandates of Ethiopian CDRMs in criminal issues and suitability with restorative justice by exploring its de jure and de facto is supportive. But to analyze the results relevant documents was used from previous literature and interview only. He listed different models for restorative justice, used only interview to find out some facts about CDRMs in the country instead of directly contacting the owner of such practice, and concluded that Ethiopian CDRMs is not recognized by the then criminal law of Ethiopia. Hence this research finds a gap



of not involving elders in Enyew's work; conducting focus group discussion and other techniques is needed to find out representatives of the community thought about.

An article by Zelalem and Endalcachew (2015) defined conflict as it is a relationship between two or more parties in which each party perceives the other's goals, values, interests or behaviors as antithetical to its own advantage. This article discussed about conflict in the horn of Africa especially in Ethiopia. The conflict in Ethiopia and horn of Africa is caused by internal, centralization of power, misallocation of resources, not level economic development and borderlines. This article also pinpoints Ethiopian traditional conflict resolution institution, among them the Geda is the first one in the regional state of Oromia. Geda is a system of classes (Luba) that succeeded each other every eight years in assuming military, economic and spiritual responsibilities. One Geda institution mentioned as an indigenous conflict resolution mechanism was the traditional judges who adjudicate under a tree called "*dhaddacha*" (Zelalem and Endalcachew, 2015). The "Qaalluu" are the most senior men in the kinship system. Major conflicts in the clans may be taken to them for mediation. Their villages are the spiritual center around which electoral contests are organized. Conflicts is a symptom of social pathology and the ideal state is one in which the generation cooperate rather than compete (Asmarom, 2019).

The article discussed what is done at the time of performing conflict management. During the adjudication, the traditional judges sit according to their seniority of age and knowledge of customary laws because of the belief in the Oromo traditional society that senior person has much more accumulated knowledge than juniors. The "*dhaddacha*" institution solve the conflict by providing the right to select five elders for the plaintiff (the accuser) and four elders for the defendant a total of nine elders. The defendant has the right to oppose any elder or judges and the same is true for the accuser. So from this article it can be understand that this kind of Oromo culture brings a democratized way of settling conflicts (Zelalem and Endalcachew, 2015).

He also discussed about the participation of women in conflict resolution. Although, women in Oromo society do not directly participate in conflict resolution but, there is a place in GEDA institution that allows them to participate in conflict resolution activities and influence lawmaking and election, for instance, if a husband unfairly beats his wife frequently and

troubleshooter, the wife goes to the leader or the peer group “*hirriya*” in the vicinity and informs them about the matter. Then the women take “*siqqe*” with them, the stick that they keep from the date of their marriage to the date of their death and get the residence of the husband where they look into the case through their representatives called “*Shane*”, a committee of five elders and if the husband is found to be guilty, they penalize him by taking one or two oxen from him to slaughter for the peer group to eat, so Oromo women also have a great role in solving conflicts among Oromo clans by intervening and requesting for reconciliation by using the institution called “*siqqe*”(Zelalem and Endalcachew, 2015).

So many aspects related to conflict management were covered in the Zelalem and Endalcachew article such as availability of TCM institutions, nature, sources and management mechanisms of conflicts, and procedures performed during the ritual. Respecting all the positive sides, this research finds a problem in the article which lacks a means of documentation and dissemination these cultural values helped by ICT tools.

Abebe(2016), with his article indicated the role played by indigenous institution in handling or settling conflicts in Sidama society that was conducted in Dalle woreda, Sidama Zone. A qualitative research approach was used, interview, key informant interview, focus group discussion, personal observation and document review was used as data collection methodology. The results obtained from the study suggested that conflicts in Sidama, as in anywhere else, may vary from trivial interpersonal disagreements to a serious dispute which might eventually lead to homicide, but most common conflict issues in Sidama were grazing land, water, farmland and borderland. Among many deeds and accounts considered to be crimes with regard to the norms and traditions of the Sidama community the most serious ones are: beating a man with a slump and/or thin stick, beating elderly, raping, murder, and physical damage on adultery. The study concluded that besides to modern institution, the indigenous institutions played a great role for the emergence of cooperative unions, indigenous/traditional/ institutions are cost and time effective in addition to many other benefits provide for the society when compared with modern institutions(Abebe, 2016).

The author uses a qualitative research approach and the data collection techniques are the same as this research's plan, but the preservation and dissemination such as IK is seen in a different way. Sharing of such IK in the form of a document can cover some areas within the country, but if it is disseminated through a mechanism that involves technology, it can bring the gap of information. So this study objectively worked to make the actual knowledge of elders reach different parts of the country by developing a web-based system.

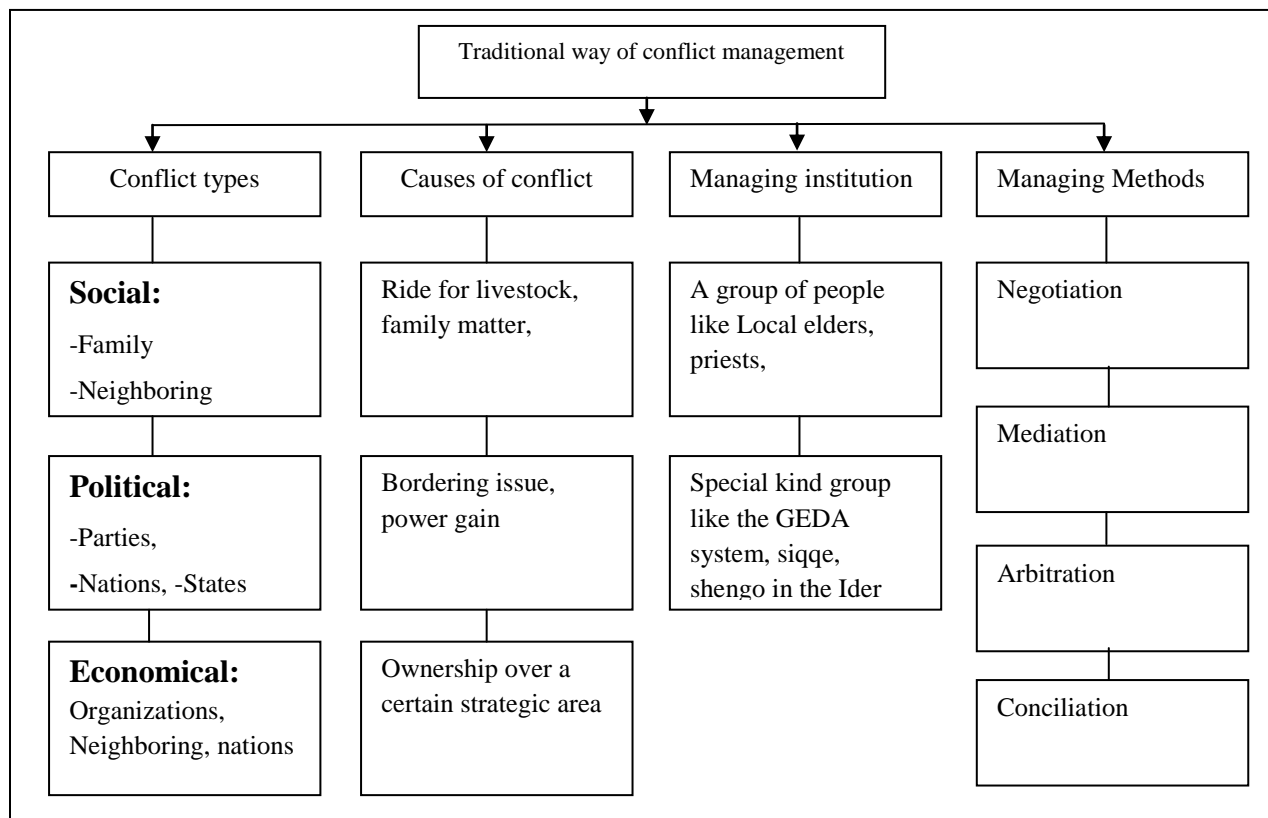
In preserving IK, an article by Nakata et al. (2014) underlines the importance of IK for indigenous communities and for the advancement of general scientific knowledge, particularly astronomical knowledge. As of the article, the researchers first explore the IK for astronomical knowledge, and then develop models for digitally capturing and disseminating indigenous astronomical knowledge, that they believe in digital technologies for its capability in providing avenues for preserving indigenous astronomical knowledge and making it accessible to future generations of indigenous people (Nakata et al., 2014). The article developed a model to capture and disseminate the indigenous astronomical knowledge digitally, they insisted with which the knowledge can be accessible to the future generation. In this research, it is a web-based system that is going to be developed for preserving and disseminating the knowledge in traditional manner of conflict management.

All the literature reviewed in the related work aimed mostly on the exploration of these traditional manners of conflict management. Those TCMs include revealing the role played by the traditional conflict management institutions, the advantage of the traditional way over modern court proceedings, and other detailed practices related to it. As of the articles reviewed, most conflict types fall under the following groups; social (family and neighbor), political (parties, nations and states), and economical (organizations, neighboring and nations). Also the causes of conflicts are family matter, grazing land and ownership of strategic areas, managing institution and methods are described in the following framework figure. Most of the articles did not intend to find a solution for safeguarding the cultural values and either there is no suggestion or recommendation for future study direction in preserving these indigenous knowledge. So this study clearly identified unavailability of studies which was done in the

exploration and system development especially in traditional manner of conflict management in Ethiopia then tried to put some efforts on this filed.

## 2.9. Conceptual Framework

From the literature review, a conceptual framework presented below which includes conflict type, causes of conflicts, conflictmanaging institutions, andmethods used to managing conflicts. Exploration IKCM using a research methodology, and preservation system development to disseminate the IK is the outcome of this study. In the previous discussion various types of conflict management institutions were demonstrated. Almost all societies have norms and customs to handle disputes and achieving management of differences among the community. Cause and type of conflicts also showed and explained, but here from the constituents included in the conceptual framework this study putted its objective to explore IK and preserved it to be shared so that young generation will be benefited.



**Figure 1: framework for popular dispute resolution**

The above conceptual framework was modified from(Mercer et al, 2009).

As it is shown in figure above, it included only components about what types of conflicts are dominantly occurred, causes of conflicts, managing institutions, and the mechanisms. For better understanding, the components in traditional way of conflict management framework need a clear demonstration. Conflict types mentioned in the literature document were categorized as social, political and economical and in those categories types of conflicts were family, neighbor, party, nation and organization. Most causes of conflict were family matters, ride for livestock, power gain, bordering issue and competition to own strategic areas.

Conflict managing institutions described in the framework are; a group of people like elders and priests; and special kind of groups like in the Geda system, Siqqe, and Shengo of Ider. Among conflict managing methods negotiation, mediation, arbitration and conciliation were found. The institutions are representatives of the community who have the indigenous knowledge to manage conflicts via the methods discussed above. So there are various types of conflicts caused by different reasons but to bring agreement those institution apply methods from the accumulated knowledge. In this study in addition to what was listed above, web-based system development process is planned to be included that provide another dimension.

## CHAPTER THREE

### 3. MATERIALS AND METHODS

#### 3.1. Research Design

For this study an exploratory research design (quantitative and qualitative approaches) was used. Qualitative research approach was employed in the study because of its appropriateness to explore the role of indigenous knowledge holder in managing or settling conflicts in the study area due to the following reasons. First the nature of the research, which focuses on the community's beliefs, opinions, attitudes, and relationships. The second is this technique enables to have the critical and deeper understanding of the social phenomenon that is often carried out in a natural context. It also enables to dig the deep knowledge and skills used by indigenous conflict resolution institution. Qualitative approach to research is concerned with subjective assessment of attitudes, opinions and behavior (Kothari, 2004).

Qualitative data was collected through the use of focus group discussion, interview, personal observation, and document review. Moreover, for collecting all requirements the web-based system development a quantitative approach was necessarily implemented. The quantitative approach involves the generation of data in quantitative form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion (Kothari, 2004). Quantitative data was collected from the stakeholder workers via questionnaire. Those employees are professionals who strived on preservation and dissemination of indigenous knowledge especially in conflict management.

#### 3.2. Description of the Study Area

First of all, the sites were selected based on the availability of indigenous knowledge and the practice of conflict management in traditional manner as the knowledge of the researcher. Potential indigenous people were member of the study area especially the Digo clan of Oromo communities are settling in Gara-muleta and Butterree Kebele of Mana woreda, and many elders in Qoshe one and two Kebele of Mareqo woreda whom, with indigenous knowledge recently managed the conflict that was aroused by those elders who were striving to bring peace

among

society.

Mana is one of the woredas in the Oromia Region of Ethiopia. Part of the Jimma Zone, Mana is bordered on the south by Seka Chekorsa, on the west by Gomma, on the north by Limmu Kosa, and on the east by Kersa woreda. The administrative center of this woreda is Yebu. The landscapes of Mana include mountains, high forests and plain divided by valleys. Mountains include Weshi and Bebella. Rivers include Aniso, Doha, Wanja, Yebu and Sogibo.

The July 2008 national census reported a total population for this woreda of 168,483, of whom 86,280 were men and 82,203 were women; 4,393 or 3% of its population were urban dwellers. The majority of the inhabitants were Muslim, with 90.23% of the population reporting they observed this belief, while 8.44% of the population practiced Ethiopian Orthodox Christianity, and 1.15% was Protestant. This area was selected because there were kind of community groups who were a descendant of king Aba Jiffar who are very elderly and much known in their involvement and success of conflict resolution, all the people living around the area have been using the traditional manner of conflict resolution starting from their ancestors.

The other woreda selected as a study site was Mareqo woreda which was selected due to the long practice of conflict resolution trends using elders called “Raga-Mara” and the recent experience of resolving conflict between two clans using the traditional manner successfully that the researcher found the practice of indigenous knowledge within the community. Mareqo Wereda is located in SNNPR state, one of the Weredas included in Gurage zone. It is bordered on south and southwestern by Silte zone, on north by Mesqan Wereda and Oromia regional state, on east and northeast by Oromia regional state. The administrative center of this woreda is called Qoshe which is 140 km far from Hawassa (capital city of the regional state), 114 km far from Welqite (the zonal city), and 270 km far from AddisAbaba (capital city of Ethiopia).

The Wereda lie in the great rift valleys with 80% plane, 20% gorge landscape having an altitude range from 1800 to 2076 meter above sea level getting annual rain water from 500 to 800 mm, an average temperature of 15 degree centigrade during cold season and 27 degree centigrade during hottest season.

According to 2008 central statistical agency information, the Wereda's number of population for males 44529 (49.8%), for females 44983 (50.2%) a total of 89512 population, out of this total 87.75% of the population is dependent on producing agricultural products, 78089 people are rural dwellers and 11523 are urban dwellers, the density of the population is 273 population per square KM, this came from the total area of the Wereda that is 32950 square KM. 58% of the population is in production age that is from 15 to 64 years of age and the rest is below 15 and above 64 years of age. Source (Mareqo Wereda Population affair Development Office).

### **3.3. Sources of Data**

As sources of data both primary and secondary data sources were used for this study in Jimma and Gurage zones, but the study population was only from Mana and Mareqo woredas, those were selected due to the reasons mentioned above, and stakeholder institutions in those woredas working particularly in IK, experienced and successful social groups are inhibited in the area.

#### **3.3.1. Primary Data Sources**

For the reason of data analysis, in brief, the researcher made contact with informants such as locally respected elders, disputes, youth, and governmental organizations who have involvement in peacekeeping and concerned stakeholders who were strive for preservation and dissemination of indigenous knowledge for conflict management in the process there was a successful gathering of unwritten history and cultural believes in audio document format.

#### **3.3.2. Secondary Sources**

Different literature and documents from governmental and local conflict resolution institution was collected. For the purpose of how the project could be implemented to preserve and disseminate indigenous knowledge to the young generation, published and unpublished materials such as magazines, books, journals and unpublished reports from governmental organizations, especially any available application of system in preserving IK document was checked, in the end the primary data was checked against the secondary data and vice versa in addition to bringing forward new and supplementing document.



### **3.4. Sample Size**

As it is mentioned in the description of the research area Mana and Mareqo woredas were selected, the first contact was made to the woredas' administration office. After collecting a letter that was written to ask the kebele management to cooperate with this research study the by showing the letter a contact was made to the head of the kebele leaders. The kebele leaders wrote a letter to an average of seven elders in the kebeles who are mostly participating in the conflict management to present themselves according to the date he specified. The total sample size for the study was determined as the following,there wasa conduct of interview (Semi structured) with a total of 8 individuals; four with elders,four with local known person and religion leaders (Christian, Muslim, and other) two individuals in each kebele; a total of four FGDs in two woredahaving 6 to 8 members in each group from four Kebeles one in eachkebele, an average of seven members in each FGD from elders, youth and locally respected in both woredas totally 28 individuals; forty-eight in Mana and forty-nine in Mareqo woreda employee from local stakeholder organizationswas participated in answering the questionnaire with a total of 97 professionals. Thus the total sample size of the study was 133.

### **3.5. Sampling Method**

A sample is composed of some fraction or part of the total number of units in a defined population. Sampling adopted in this study covered on bases of available elder groups for indigenous knowledge exploration. For professional in stakeholder organizations random sampling method was used in this study to represent the sample population so that data was gathered from the woredaselders and governmental organizations (youth, culture and truism, peace forum and peace and security) in the woredas proportionally. The reason for using available elder groups as a sampleis in order to obtain a representative sample from the local communities in the kebeles and organizations. Then elders and employeewere selected from the kebeles and organizations using available members of knowledge practitioner and professionalsrandomly.

### **3.6. Data Collection Instruments**

It is more effective if themultiple data gathering tools were used and based on this assumption the investigator used the combination of four popular data collection instruments, namely focus

group discussion, semi-structured interviews, observation and questionnaires. Moreover, closed and open-ended questions were included in the questionnaire in order to get enough information. Since the study focused on the need for exploring indigenous knowledge, management system application for ease of preservation and dissemination, the self-administered questionnaire was used to get information about the need for developing web-based system from governmental organizations' employees.

### **3.6.1. Questionnaire**

There was a questionnaire which was prepared in English using the basic research questions and from a review of literature of related work. The types of question in the questionnaires were two, open-ended and close-ended, in the first case, it would give every chance for the respondent to provide his/her own opinion about the need and application of IK without any restraint, in the second case it would help in classifying the responses.

### **3.6.2. Semi-Structured Interviews**

For the purpose of collecting relevant data and cross-checking with the data collected by the observation and FGD conducting interview was vital. this semi-structured interview was recorded with tape and an audio file was translated, ethical considerations, in fact, were kept since it was conducted with elders through a direct contact that was created more chance in acquiring additional knowledge associated with conflict management and information whenever the respondent was free to come up any other related issue such as the current situation of the country.

### **3.6.3. Focus Group Discussion**

Focal group discussion was another data collection technique that was conducted through the use of videotape which was checked parallel to interview data files so that the researcher was able to compare the actual facts of putting the indigenous knowledge for conflict management in to the ground that were decisive for the researcher in his collecting, preserving, and disseminating indigenous knowledge.

### **3.6.4. Observation**

Comprehensive observation at the time of traditional manner of conflict management implementation processes was taken place repeatedly in Mana woreda in between July17, 2019 and July23,2019, in Mareqo woreda between June11, 2019 and June20, 2019. Thus the study was made by involving directly in the process for detail observing and participation andthis enable the researcher to have a better perceptive of the community and surrounding.

### **3.7. The Procedure of Data Collection**

Participant in this research were from village elders, conflicting parties, religious representatives, known persons,social institutions, and local governmental organizations' employees that have involvement in traditional conflictmanagement knowledge. The last respondents were selected in accordance with their educational level that they were at least a college graduate having working experience in indigenous knowledge preservation and dissemination. Thus results from the questionnaires of those respondents were analyzed.

### **3.8. Methods of Data Representation**

After the collection of data during FGD, interview and observation from the elders it were organized in the format of video, audio, image then represented into text format. A better descriptive statement analysis was presented after the collected data (questionnaire sheet) were organized with the support of tables and figureswhich make the representation of data very clear and reasonable.

### **3.9. Methods of Data Analysis**

To explore the indigenous knowledge from elders all data collected in the form of pictures, audio and video was analyzed by result matching, pattern checking and cross checking what wasacquired from focus group discussion, interview and observation was also present into each other.And all the data were edited in order to preserve in the web-based application system, the edition involves cutting the lengths of video and audio files since the server can accept only certain amount of data at a time (two MB). For the analysis of data that was obtained from the questionnaireSPSS data analysis tools was used to generate report only then this studyrealized patterns that give sense or meaning which was address the exact objectives of this research.

Eventually, results were presented from the community of Mana and Mareqo woredas, and then the researcher concluded based on the patterns and answers from the analysis. Here are the steps followed for the analysis:

The steps followed for quantitative data analysis were as follows:

Step 1: the integrity of the data test was continually analyzed, so validity check implemented to: identify inconsistencies in the data within each data collection instrument. Identify unreasonable entries and identify impossible entries. All problems and errors were checked and corrected against the original instrument. Step 2: conducting descriptive analyses. Step 3: the cross-tabulation and comparison of information within and between target groups where sufficient sample size existed.

The steps followed for qualitative data analysis were as follows:

Step 1: Recording and taking note of observation; Step 2: Repeatedly listening and watching audio and video data; Step 3: Comparing data from the Mana and Mareqo woredas; Step 4: Categorizing recorded data and converting them into text; Step 5: feeding into the web-based system.

### **3.10. TCM Web-Based System Development**

Installation of drupal version 7.6 platform method was used in this study for web-based system development for user interface applications and it is free and open source software with Xampp server in local host. The main purpose of Xampp is to creation and manipulation of a database system and to preserve collected data in different formats. Because of its content management capability drupal is used by 2.1% of the total websites in the world (Buytaer, 2019). It is aimed at building robust applications in an organizational context, and suitable to give developers full control over the configuration: from the directory structure to the foreign libraries, almost everything can be customized. To match enterprise development guidelines with additional tools to help developers test, debug and document projects (Buytaer, 2019).

The young generation is the main reason for the development of such web-based indigenous knowledge for conflict management preservation system. For giving attention to the fading of indigenous knowledge many scholars need a way for preservation and dissemination of indigenous knowledge and how users especially the young generation ascertain and access the knowledge of managing conflicts. So the application system that preserve indigenous knowledge

for conflict management was designed to help the young generations to enable them to search and quickly obtain relevant results using this web-based application system.

The reason why drupal was used as content management software is because it is used to make many of the websites and applications we use every day. Drupal has great standard features, like easy content authoring, reliable performance, and excellent security. What sets it apart from others is its flexibility and modularity is one of its core principles. Its tools help anyone build the versatile and structured content management system that is why dynamic web experiences needed (Buytaer, 2019).

It's also a great choice for creating integrated digital frameworks. Anybody can extend it with any one, or many, of thousands of add-ons. Modules expand drupal's functionality. Themes let developers customize content's presentation. Distributions are packaged drupal bundles allow to use as starter-kits. Mix and match these components to enhance Drupal's core capabilities. Or, integrate drupal with external services and other applications in developed system infrastructure. No other content management software is this powerful and scalable.

Steps were followed for the development of the system: downloading drupal version 7.6 and xampp version 3.4 software from drupal.org web site. Install xampp then integrate it with drupal by following necessary steps. Deploy the system to the application server currently in a local host server of off line computer. Feed system the document for which the users can search and download files in different formats. Expose search functionality and enable users to register themselves in in the application system.

### **3.11. Ethical Consideration**

Participants were told about the confidentiality of the information they provide, *i.e.*, it will be confidential and only for research purpose. Mainly participant's every right was kept on the bases of ethical principles and every effort was used. Concerning the focal discussion, interview and observation with the elders, official letters from the department of information science was collected and contact with the concerned governmental body was established since such kind of

topic with current situation in the country can bring difficulties in exploring and collecting the intended indigenous knowledge for achieving the objective of the study.

## CHAPTER FOUR

### 4. RESULT AND DISCUSSION

#### 4.1. Quantitative Result

The basic research questions that need to be answered as stated in section one are how IK for conflict management could be explored from the community elders, how to find the requirements for web-based system development, how architecture of the system is designed, and how a web-based application system could be developed. So that through FGD, semi-structure interview, observation and questionnaire data were gathered, analyzed, and the results are discussed to be presented below, here is the achievement from the questionnaire of governmental organizations' employee that contributed in identifying the requirements for system development in order to preserve and exchange IK.

##### 4.1.1. Demographic information

Here, in the first place general respondents' demographic information was gathered using current working organization, organizational category, organizational type, gender, age, experience, job title or position, educational status and their woreda name and presented as an introductory part. Next to this, in identify the requirement for the system development the respondents' views and thoughts were collected then, based on the experience of respondents, their suggestion was gathered. Finally the data was analyzed considering the answer forwarded.

**Table 1: Responses in terms of organization name in the woreda**

Responses in terms of organization name in the woreda						
Name of Working Organization Name	Job Title/ Position	Educational Level	Name of the Wereda and Count			
			Mana	Mareqo	Sub tot	Total

Youth, Culture and Tourism (33), Peace and Security (28), Peace Forum (29) and other (7)	Office Head	BSc/BA	3	3	6	6
	Vice Head	BSc/BA	3	2	5	6
		Diploma	-	1	1	
	Team leader	BSc/BA	2	5	7	22
		Diploma	7	6	13	
		Certificate	1	1	2	
	Expert	BSc/BA	6	5	11	63
		Diploma	18	13	31	
		Certificate	9	6	15	
	Other	Diploma	1	5	5	
Total 97						
Total in %					100%	

From the table 1, it is clear that in terms of current working organization 33 (34.02%) of the respondents were from Youth, Culture and Tourism office, 28 (28.86%) were from peace and security office, 29 (29.89%) were from peace forum office and the rest 7 (7.21%) were from other office but not specified, in terms of job title 6(6.18%) are office head, 6(6.18%) are vice head, 22(22.68%) are team leader 57(58.76%) are expert and 6(6.18%) are in other job title but not specified.

The result indicated that stakeholder organizations are there in the woredas engaging themselves for encouraging, preserving and disseminating indigenous knowledge practices from governmental organizations. Non-governmental organizations in international level were not involved in acknowledge or supporting the practices of IK in both woredas; professionals who were experienced and educated were found.

Stakeholders' respondents from governmental organization category including youth, cultural and tourism office, peace and security office, peace forum office and other office, that is showed below.

#### **Table 2: Responses in terms of age group in woreda distribution**

Responses in terms of age, gender and Wereda in organization category					
Organizational Category	Age Group	In Mana Wereda	In Mareqo Wereda	Total	In % tag
Governmental	19-25	13	5	18	18.55
	26-35	27	33	60	61.85
	36-51	9	10	19	19.85
NGO	Any	-	-	-	-
International	Any	-	-	-	-
Total		49	48	97	100
% of respondents		50.5	49.5	100	

The number of respondents in each woreda count 49 (50.51%) from Mana and 48 (49.48%) were from Mareqo. Those respondents deemed having a relationship with indigenous people, are very experienced in traditional manner of conflict management practices by the rural community since from the total respondents, 18 (18.55%) were in 19-25 years range, 60 (61.85%) were in 26-35 years range and 19 (19.85%) were in 36-51 years of age range this mean most professionals are in 26 to 35 years range which depicts there is an active working group man power.

All of the respondents were from national organization type, below is the result obtained in terms of experience, gender and organizational type.

**Table 3: Responses in terms of experience and gender**

Responses in terms of experience, gender and woreda in organization type					
Organizational Type	Experience	Male	Female	Total	In % tag
National	>2	10	5	15	15.46
	2-5	22	7	29	29.89
	6-10	29	7	36	37.11
	< 11	13	4	17	17.52
International	Any years	-	-	-	-
Regional	Any years	-	-	-	-
Total 49			48	97	100
% of respondents		50.5	49.5	100	

From the total respondents, 15 (15.46%) were working for less than two years, 29 (29.89%) were had experience range of 2-5 years, 36 (37.11%) were had experience range of 6-10 years and 17 (17.52%) were had experience range of more than 11 years.



From the table 3 aboveout of the total respondent,number of female were 23 (23.71%) and male were 74 (76.28%), but in terms of experience only 11 (11.34%) of them worked for six and above years in such organization this fact show that there exists unequal gender distribution.

Participants from all offices were asked to check their answers on the appropriate options on a range from PhD to certificate regarding their level of education and got the following answers.

**Table 4: Educational level of Responses**

Educational level of respondents				
Option for Level of Education	Mana Wereda	Mareqo Wereda	Total	Percentage
PhD	-	-	-	-
MSc/MA	-	-	-	-
BSc/BA	14	15	29	29.89
Diploma	25	24	49	50.51
Certificate	10	9	19	19.85
Total			97	97

From the result above it shown that there were no PhD and MSc/MA educational level worker but 29 (29.89%) were in BSc/BA educational level, 49 (50.51%) were in diploma educational level and 19 (19.85%) were in certificate educational level. So the numbers assure that most of the respondents were a diploma holder in each Wereda.

Out of the options provided to check on their matching job title/position, the participants selected the answers by choices from the office head to expert or other if there is any and the following result were obtained.

**Table 5: Responses in terms of job title/position**

Job title/position		Answer checked	Answer in percentage
Option a)	Office head	6	6.18%
Option b)	Office vise head	6	6.18%
Option c)	Team leader	22	22.68%

Option d)	Expert	57	58.76%
Option e)	Other if any	6	6.18%
Total		97	100%

The table above prevailed that most of the professionals are employed as expert whose role could significantly recognizable to the preservation and exchange of indigenous knowledge.

**4.1.2. Practices of INCM in the community**

The respondents were asked if they know about the practice of traditional manner of conflict management in their surrounding communities. Like “Do you know the practices of indigenous knowledge for conflict resolution in your community?”

The result showed that almost all of them answered “yes” for the question as it was able to collectwith questioner. Out of the total respondent 94 (96.9%) of them were familiar with the practices of such knowledge, only 3 (3.09%) of the respondents answered they do not know.

**4.1.3. IKCM Preservation System Usage**

When respondents asked about IKCM system usage, most of them replied that they never used. The question was “Have you ever used indigenous knowledge for conflict resolution preservation system?”

According to the figure above, among the respondents 93.8% (91) indicated that they had never used any IKCR web-application system and 6.2% (6) answer that they had been using such system, even if those respondents provided their answer as yes but they were not indicated about where to search the system and do not known which database. From the finding it can be said that a system that preserve IK is not available.

**4.1.4. Problem in preservation and exchange of IKCM**

All respondents said that there is no problem at all in preserving and exchanging IKCR as it was found in the gathering data with the question of “Do you think there is a problem of indigenous knowledge preservation and exchange among stakeholders and others?”

As all the respondents said that there is no problem to preserve and exchange IKCR by stakeholders, they thought there is a need for a system to be used in preserving and disseminate this kind of knowledge.

#### 4.1.5. Organizational Initiatives

Response obtained about their organizational initiatives and approach used is as follow.

**Table 6: Organizational initiative in terms of approach used and current status**

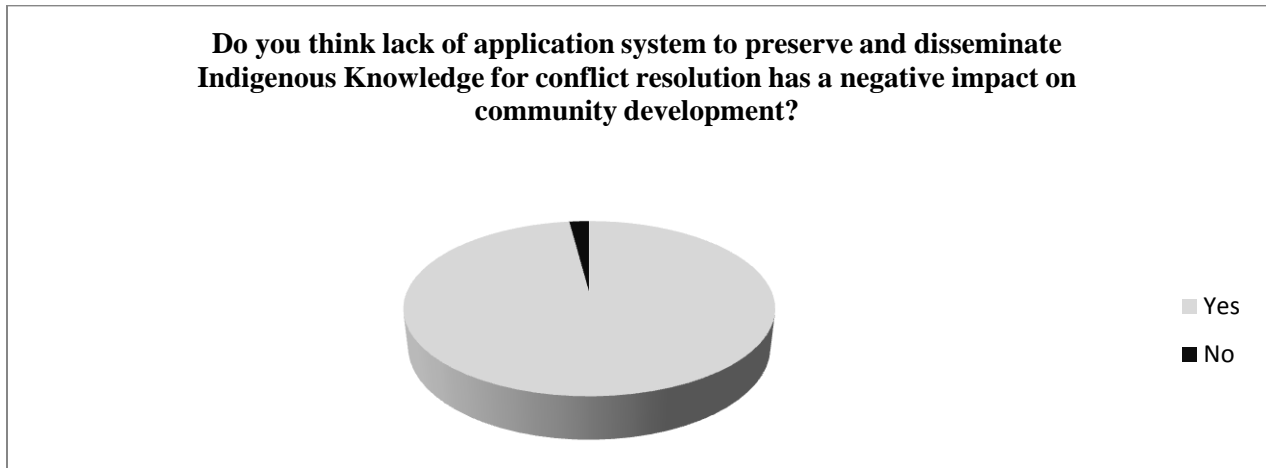
Responses related to organizational initiatives					
Working organization name	Does your Organization had initiative to preservation & exchange IK			What Approach is used	What is the Current status
	Yes	No	Out of		
Youth, culture and tourism	30	3	33	Documenting it with supporting picture	Text and picture are documented
Peace and security	23	5	28	Facilitating the practice and prepare report	Found in report
Peace forum	25	4	29	Videotaping some of the actual ritual	In Recorded document
Other	-	-	7	-	
total	78	12	97		

Respondents from different organizations forwarded their answer about their organizational initiative to preserve and exchange IK. As a result 78 (80%) said yes and 12 (12%) said no and in accordance with the answer provided the approaches used with current status were explained as shown in the table 6 above. Most of the approaches used were aimed documenting events while conflict management rituals were performed for the reason of reporting to higher organization.

#### 4.1.6. Lack of Application System Impact

Respondents forward the possible existence of negative impacts if there is a lack of a system to preserve and disseminate IK, and it is demonstrated in the figure below. The result clearly show that 95 (97.9%) of the respondent insisted there will be a negative impact and only 2 (2.0%) were said no negative impact could occur if there is no system. The result from the figure showed that respondents are believed the system development will support the community in that it might

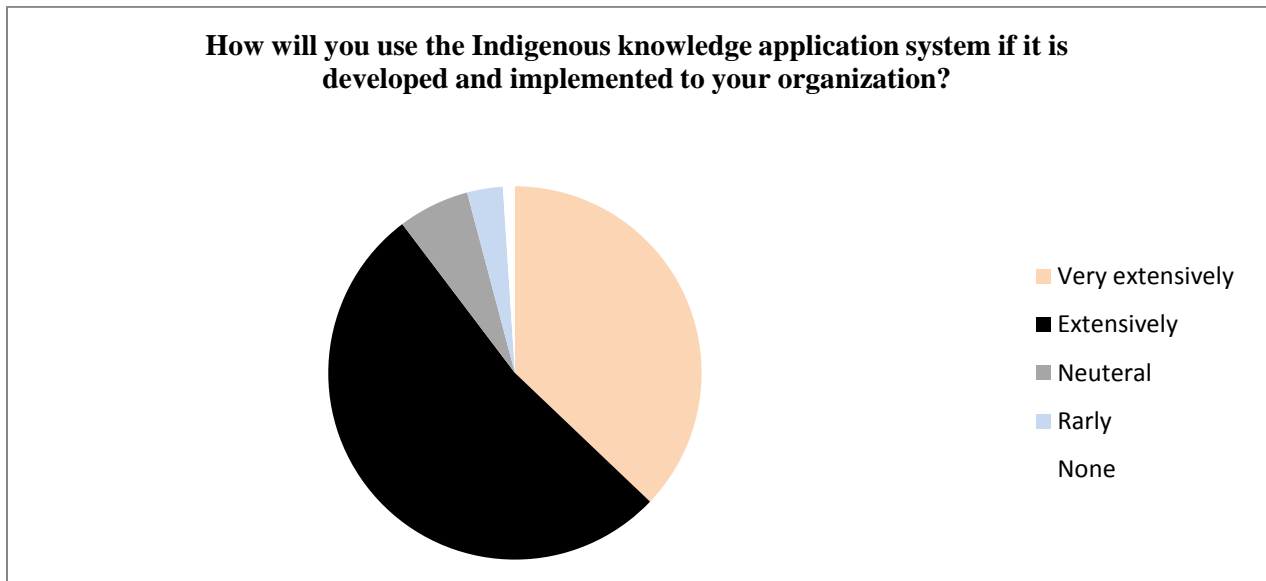
play its role for awaking young people for getting information related to practices of managing conflicts.



**Figure 2: lack of system impact**

#### 4.1.7. Use of ApplicationSystem

The respondents answer by checking in the option provided from range of very extensively to none and the following figure showed it.



**Figure 3: Use of application system responses**

As of the forwarded result it is obtained 36 (37.11%) of the respondent checked they will use in very extensively, 51 (52.57%) of them checked extensively, 6 (6.18%) of them checked neutral, 3 (3.09%) choose rarely and 1 (1.03%) choose none as their answer. From this finding it can be said that the system if developed will be used by many people.

#### 4.1.8. System Features

Respondents expressed their thought about the features that the application system should include in order to use it efficiently and effectively.

**Table 7: Responses related to system features**

Responses related to what features should the application system include		
Organization name	Job title	what features should the application system include
YCT office	Office head	Access to all kinds of related documents
	Vice head	It includes experience of other areas
	Team leader	Easily accessible materials
	Expert	Video downloading features
	Other	-
Peace & security office	Office head	A feature that can assure responsibility
	Vice head	A feature in which other practices can be entered
	Team leader	A way of leading to useful documents
	Expert	It should consider all kind of users are benefited
	Other	-
Peace forum office	Office head	Pectoral explanation for detail conflict resolution
	Vice head	It should have a feature that all kind of IK
	Team leader	-
	Expert	A feature that consider all users
	Other	-
Other office	Expert	-
	Other	-

Respondents expressed a list of features that should be included in the preservation and dissemination of IK system if it is going to be developed; access to all kinds of related documents; traditional manner of conflict resolution experiences from other areas of the country; easily accessible materials; a means for file downloading; a user friendly; attractive and considered all kinds of users; and other. In general, the following lists of features are needed. A feature that provide access and privilege to users in their role, a method to share IK practices in users vicinity, responsibility checking mechanism and timely updated files or documents in different format.

#### 4.1.9. Suggestion of System Owner

According to the response collected from the respondents there is several organization and offices suggested including ministry of peace that should be own or administer the application system once it was developed.

**Table 8: Suggestion of system owner**

Responses related to their suggestion about who should manage the system	
Organization name	Once the application system is developed who you suggest to manage it, why?
YCT office	Peace minister, Youth, culture and tourism office, Peace minister with our office
Peace & security office	Peace and security, It should be managed by peace & security
Peace forum office	Peace forum
Other	Peace minister

The above table indicated respondent's suggestion on who should be manages or own the system once it is developed. Most of them said that the system should be managed by ministry of peace

and some suggested their own organization. The reason why ministry of peace suggested is that because, the minister of peace has potential to organize resources and make it available to public use.

## **4.2. Focus group discussion result**

For the purpose of exploring the indigenous knowledge for conflict management from the elders of the community a focus group discussion had been implemented, structured interview were conducted and actual conflict management ritual were observed. A focus group discussion was the first task made by researcher to gather the knowledge from the group of representatives from local community and various questions were raised that was explained and discussed through which the knowledge was collected by the means of audio recorder.

The implementation of FGDs were accomplished in Gara-Muleta, Buxuree, Qoshe one and two Kebeles with a total of four FGDs one in each kebele to explore IK from the elders. The exploration was the first objective of this research. Thus a representative of elders group having an average of seven member was participated, for acquiring relevant data during the discussion audio and video recording tools were used with which the knowledge was able to preserved until it was inserted in the system. Here is the detailed explanation provided for each discussion topics raised between the elders.

### **4.2.1. Explanation about IKCM**

For the purpose of getting insight about how traditional manner of conflict management (TMCM) seen by elders in the community from Mana and Mareqo woredas, they were requested to describe how they see the TMCM by forwarding this question “How do you see the traditional/indigenous manner of conflict management?” under which there were four sub question that was forwarded to be explained those are “What does it mean”, “About its effectiveness”, “How long does it take” and “Who takes the initiatives and why”. The elders explained about: “what traditional manner of conflict resolution mean to you” from Mana and Mareqo Wereda respectively.

Mana Wereda:one of the elders explained his understanding in the following way:in current time conflicts are inevitable in different category, so selected group of elders from zonal settlement based on their acceptance by the society will hear the justification of the disputants and pass fair judgment,this is what traditional conflict resolution mean to me.The other adds it is an act of elders who represent all community to create agreement between two sides so as to every community member live in harmony and encourage making peaceful place.

Mareqo Wereda:all of the elders agreed that: it is a means of resolving conflict and bringing peace among the community,moreover, it is a traditional custom for negotiation by mediating between conflicting parties and it is also a moral responsibility of elders that everyone should live together in peace.

The elder's response to "Traditional manner for conflict resolution effectiveness", all of them were sure that the traditional manner is very effective, among them some of the elders explained their view as:

Mana Wereda:yes it very effective because when disagreed individualschooseto be judge in traditional manner of conflict resolution they are permitted to call or bring a representative of their own persons for involving in the judgment of elders that insures confidentiality of justice.It is very fruitful, because once reconciliation has made between individuals by the elders they make it very clear that the issue does not raised again, they solve it for once and all.

Mareqo Wereda:Yes, it is effective because reconciliation by the traditional manner solves every problem from the root causes and every suspected matter that may perhaps expand additional conflict will be resolved. The reasonis, because most of the community prefer traditional manner of resolving conflict.

The elder's response to "how long does traditional manner for conflict resolution takes"

Explained as

Mana Wereda:it is determined by the variety of conflicts, if the situation does not need more examination it will be solved in ten to fourteen days,because the elders work day and night and take responsibility for abolishing revenge action it is not last more than fifteen days, but if the conflict is complex and in between brothers, families and neighbor of worst in nature it will be



delayed using a local name “Haabuluu” a local Afan Oromo word just to mean let it be stay untouched at least for a while.

Mareqo Wereda: there is no fixed time; it is up to the disputant’s willingness to agree on their conflict. The duration is depend on the determination of both families to make the case easier or not, if they were harden the issue the elders will handle it by taking time for further investigation. The justice processes time can be last for a minimum of one month to a maximum of six month depending on the causes and complexity of the conflict.

The Elders response to “who take the initiative and why” was

Mana Wereda:it is initiated by the one who thinks that he is the victimized individual. If it is necessary the elders by themselves has a possibility to initialize the conciliation if they heard and someone informs them about the possible conflict occurred between two individuals.

Mareqo Wereda: the initiators for judgment by traditional manner are the families of the defendant; they will appear to the elders to request for handling the matter in cultural way, because it is tradition, if the case is loss of life the responsible individual will present his crime saying that “I have lost a life in my hand and please middle in between my families and the family of the dead in order to solve the blood shading act from now on”,because it will ease the further conflict.What was said above stay still but for ordinary conflicts the judgment processes initiated by the prosecution in the form of informing elders that he/she need justice, believing in elders.

#### **4.2.2. Categories of Conflicts in the Community**

The next question forwarded for the elders for the purpose of understanding the category of conflicts was “what are the categories of conflicts in the community” under this containing there are questions like “categories of conflicts” and “Is there special occasions, rituals, procedures to be done”.

##### **4.2.2.1. Categories of conflicts**

The elders provide their view to “categories of conflicts”as

Mana Wereda: most common are individuals, family and neighbor conflicts which are repeatedly occurred conflict causes. In addition what were said earlier were categories of conflict but there is no clan conflict seen usually in our woreda.

Marego Wereda: the most one are individuals, families, neighbors and clans conflicts, but most of the time individuals and clans conflict are more common than the other conflicts.

#### **4.2.2.2. Special occasions, rituals and procedures**

The elder's response to "Is there a special occasion, rituals, and procedures to be done" said

Mana Wereda: yes there is, when the elders sit to listen the cases there has to be recently collected leave on their chair because it is believed that sitting on wet leaves result comfortable decision. There is also a kind of coffee ceremony called "Qaawwaa" in local term; it is done after the conciliation has made and then everyone will drink it then elder of the elders praise all.

Marego Wereda: there are not any procedures to be done, but there is promise act to be done during individuals submit their issue to be handled by the elders that is holding of the land and vow to resolve it with justice and only in justice.

#### **4.2.3. Methods Used for Resolving Conflicts in Each Category**

During the FGD, to have know-how about the methods used in managing conflicts, elders were asked by forwarding question which is "What are the methods you use for resolving conflicts between the communities in each category" and replied the following view.

Mana Wereda: conciliation by telling false evidence, this kind of method is used when one of the individual seem difficult to elders, they pretend as if the other has a concern and love to him by telling false evidence and vice versa, such kind of method locally known as "maariffaa" and it is for individual conflict. Begging, the elders will accept the damage and beg to leave the conflict and ask on behalf of them to bring peace, this method is used for all conflict categories, arbitration, advice with strong words, this method is usually for family conflicts which involve telling husband or wife that he/she should not do a wrong act and respect each other.

Marego Wereda: for family conflicts varied resolving methods will be implemented like mediation by giving more attention and listen to elders of the family members, this method is

exercised when there is disagreement between families the elders will evaluate causes and advices younger children to do what their older says, but if wrong measures was taken by the older the elders correct it using advice. The other method which will be used is follow death note, the elders will probate if there is any last word and/or paper holding from the one who was late. In general most of the time the family conciliation is done in respect of respecting older family members. For neighbor and individual conflicts we used negotiation method but it does not mean it works always. If the conflict is land boundary issue the elders will present them on the actual place to oversee what was going on and who commute other's land, negotiate among neighbors and/or individuals. For resolving it for final time a plantation called locally "Sensel" will be planted as a demarcation, in the end elders will advise both to stand on their own places.

#### **4.2.4. Causes of Most Conflicts in Current Days**

Causes of most conflicts this day are many kinds according to the elder's explanation the following answers were mentioned. The question "What are the causes of most conflicts in these days?" was forwarded to them and the reply is putted below.

Mana Wereda: the first is border, rumors, graze land, and insult or disrespect during talks. All of the causes are mentioned by the elder earlier are most causes of conflict including jealousy.

Marego Wereda: in our current time conflicts are caused by property, border, theft, wife or fiancée, money loan, and so many others. Rumors, family property belongingness, and killing are causes of conflict in addition to the above. Most of all conflict could occur unexpectedly, a very simple matter can bring more complicated issue so the causes are not predictable.

#### **4.2.5. Action Taken if the Disputes Reject the Decision of the Elders**

A very crucial question about the conflicting parties was forwarded to the elders that ask about the prosecution and defendant on what action the elders could take if there is a tendency of not accepting a judge once they has passed decision. The question was "What do you do (action taken) if the conflicting parties tend not to keep their words in accordance with the decision of the elders?" and the elders view was.

Mana Wereda: first of all the conciliation process could go up to only three stages if such kind of rejection suspected during every stage conflicting individuals will be told what penalty they could face, so mostly no one dare to do that. There will be warning and both of them will call a person (it could be from elders or other) to bail them, if they deviate from elders decision a complete rejection from the society will be up on them. The exact warning is “you will be penalizing in elders law and in society”, for respecting and assuming such punishment such kind of action is not exercised.

Mareqo Wereda: for the purpose of abolish this kind of action the defendant oblige to present compensation but it will not spent or given to prosecution instead stay with elders then return back to him after realizing of complete resolve of conflict. This is what the elders are needed for because if not a total resolve has made the conciliation was unnecessary. Additionally a traditional course of action will be done to solve the conflict during which disputant need to cut intestine or trade after they tied in each leg toe and put it under ground, this action is called in locally “Guddaa”.

#### **4.2.6. Expected Action of the Disputant once Agree on Decision of Elders**

A question “What is expected from the two parties once they agree on the decision of the elders” was raised to the elders and here is the answer they provide.

Mana Wereda: they are expected just to live together same as it was earlier (as they were before the conflict), hag, shake hand and pray together. Moreover, they will show respect to each other, start to love more one to other and concenter themselves as a family.

Mareqo Wereda: what was explained in section 4.2.5 above is the expected action which is necessary to do by them but also performing vow to take any illegal action to each other, and also they are expected to spray with a honey made drink.

#### **4.2.7. TCM local name, proverbs and trends**

There is a local name the community uses for the traditional manner for conflict resolution and here the answer they provided when asked with the question “What do you call the resolving of conflict process, is there any special local name you provide for it?”.

Mana Wereda:it is called “Jaarssumma” which means a group of people particularly older in age, representing different society classes and earned acceptance by the community coming together.

Mareqo Wereda:the name is called “Raga-Maga”, this name originated from the involvement of two elders association. The first is Maga who is the one accept cases and resolve, but if the conflict was not easily resolved and complicated in nature it will pass to Raga.

Common Proverbs Used During the Assembly of Conflict Resolution:

A question “What are the most common proverbs you use during the assembling for conflict resolution?” was presented to the FGD members and they demonstrated in the following way.

Mana Wereda:during presenting compensation there is proverb to indicate that it is not going to be spent using a local word “kiissii fi sareenhinnaatamtu” that means compensation and a dog never be eaten. There is also a proverb called “Haabuluu” that is used when a complicated case appears and needed to stay for longer time to resolve.

Mareqo Wereda:there are no proverbs used.

Trends on the Ritual of Traditional Manner of Conflict management:

About the trends of traditional manner of conflict management the researcher was forwarded a question “What trend is there on the ritual of traditional manner of conflict resolution?”and according to the question the elders view was.

Mana Wereda:any of the elders who come to the conciliation of disputant should not show emotion at all, should not present himself as a witness to any side. No one should move from place to place during the conciliation until the conflict managing process schedule ends. Usually traditional manner of conflict managementtake place under a very large and aged tree called “Odaa”.

Mareqo Wereda:there is a trend of oath ceremony which is performed by elders to guarantee that they are devoted and determined to secure justice without favoring any side; by the disputant to

ascertain that there should not involvement of perjurer; by the witnesses to tell the truth and only the truth. This vowing traditional trend is known as “Tiroo” and “Feroo” in local, it is mainly necessary from prosecution side for insist if perjure were to be used during justification the consequence will be turn back on my family, and with a fear of ordeal that may come up on him the vowing tradition will be as a trend.

#### 4.2.8. **Advantage of TCM to modern means and perception by young generation**

For the question “How is it seen by the younger generation? Are they accepting and vow to continue using it or are they ignoring it?” the elders replay was explained below.

Mana Wereda: the youngsters concenter it positively, besides accepting they discuss on some cases in group, moreover, the younger are invited to observe the process not only for acquiring knowledge but also aware what was decided on their family that might help for the upcoming times. “Jaarsumma” in the first place has acceptance in wider society age group that is why it stays for such a long period of time, and also it will continue exist in the future too because we found it evidence that the young generation sit and listen what was pin pointed, the decision made, the overall tradition looks like.

Marego Wereda: yes they accept it with a script of order we allow them to be beside us and follow every case, it is very likely that they will take it in our footsteps. Associating with the elders they will be told kinds of conflicts, type and amount of penalty, and how it should be implemented.

Compared to the modern means of conflict resolution:

In order to understand what factors make the traditional manner of conflict resolution means advantageous than that of modern means a question was forwarded “Compared to the modern means of conflict resolution, what is the traditional means lacking, what is its advantage over the modern means?” and they were able to answer as follow.

Mana Wereda:it(traditional manner) is more advantages than the modern means because individuals who solve their conflict in modern means are not free of resentment and see each other with hatred.The advantage of traditional means is that elders solve the conflict with a spirit of completely atone.

Mareqo Wereda: our traditional manner is better because here we don't tolerate perjury, only the right persons are called for testimony, inappropriate person in every village can be identified easily by their reputation of what they have done, if the litigator have a trust on, anyone could justify their case with further investigation in their back in order to get trust of the traditional manner.There are times most cases are returned from court to be seen in traditional manner which indicate that our way is trustworthy solving strife in harmony.

### **4.3. Interview Report**

Four elders from Mareqo and four elder from Mana worda were interviewed with six interview questions for Mareqo and six interview questions for Mana worda's elders, according to their answer here is the result that was gathered staring with the educational status of each.

#### **4.3.1. Educational status of the elders**

From Mana worda four elders were interviewed about their educational status by presenting a question as "What is your educational status?" and the first said:third in the Derg regime, the second: in earlier system eighth but now I am tenth grade, the third: third grade and the fourth: I get basic education.

Again elders from Mareqo worda were reacted to the same question in the following way, the first elder says that: I have learnt up to fifth grade, the second: I have not enrolled in any formal education, the third: It was sixth grade that I quit, and the fourth: I get education of fourth grade. From the above answers it is clear most of them were get at most elementary education with which they were capable of doing the judgment in resolving almost all conflicts in the community that insure settling of Pease.

### 4.3.2. Conflict Management Experience

In the same above way same elders were replies to the question “How long you served in this traditional manner of conflict resolution”, from Mana Wereda the first said: I have been serving for about thirty years, the second: forty years, the third: fifteen years and the forth: twenty years.

From Mareqo woreda the first said: seventeen years, the second: I hold twenty six years, the third: twenty years and the fourth: four years. One can depicted from this elders were reach in experience and accumulated knowledge of resolving conflicts for a long period of time.

### 4.3.3. Representing of a Community Group

Most of the elders were come together from various society groupsrepresenting their society in which they told the community part when asked with a question “Which community part do you represent (elders, religion, locally respected)”.

The first elder from Mana woreda said: from elders, the second: community elders, the third: I am also from elders and the fourth: I am represented from religion institution.

The first elder from Mareqo woreda said: I am from Mareqo clan elders, the second: represent Mareqo woreda qoshekebelesociety, the third: Mareqo community, and the forth: I am from Mareqo Muslim society. The elders were represented from different parts of the community which showed the judicature can examine every case in more narrated, widen sense and from different sides of views.

### 4.3.4. About Obtaining Knowledge of Resolving Conflicts

For understanding the origin where such knowledge came from, elders were asked a question like “Where did you get such knowledge of resolving conflict?” and the following result was achieved. Answer of Mana woreda: first,I get it from our elders, second,this knowledge was acquired from fathers and grandfathers, third, it was long ago from elders and fourth it was from family reputation, my grandfathers were also had involvement in conciliation service.



From Mareqo woreda: the first said: I get it from grandfathers by listening what they told me and observing what they do, the second said: there was an opportunity of following what the elders before me were doing and I was able to catch it from them, the third said: I obtain it from fathers and grandfathers and the fourth said: it was from my ancestors' knowledge, they were very respected and trusted elders in the community. According to the above result most of the elders obtain the knowledge from their past fathers and grandfathers who were experiencing the process of resolving conflicts among the society.

#### 4.3.5. Preserving and Exchanging the KCM to Young Generation

The young generations were the reason for preserving indigenous knowledge for conflict resolution that is why the researcher asks the elders "Do you intend or plan to pass your knowledge of managing conflict to the younger generation, if you do how?"

From Mana woreda said: the first elder: because it is useful and insures peace we are teaching them, the second: any one with good personality is permitted to listen and get know how, the third: for the intention of passing it we are telling them even to record the process and the fourth: we are striving to teach them.

From Mareqo woreda the first elder said: yes, we are providing training, follow up and organize them, the second: yes always, we facilitate ways for them to get what is necessary and prepare a venue in which they can get experience from us, the third: yes we do have interest of exchanging the knowledge, by teaching them every time when we handle the cases and thought them how to do things starting from accepting request up to passing decision and the fourth: yes we do, by selecting a group of five youth who are interested in every Kebele, we show them direction on how to carry on the course of action in the same manner we elders perform. For continual of resolving conflicts using the indigenous knowledge, those elders are playing their part in passing the knowledge to younger generation to hold in their footsteps via multidimensional activities such as organizing, training, facilitating ways and directions.

### 4.3.6. Relationship to the Royal Family

Among the reasons why this study selected this research area was the practices of indigenous knowledge for conflict resolution for a longer period of time that has a history in involving king aba Jiffar especially in Mana worda, so the researcher raised a question for the elders in this worda that asks about if any relationship to the king like “Do you have a blood relation with King Aba Jifar? If yes what is your relation?” the following was resulted from four elders, the first said: “Yes, I am the king’s grandson”, the second said: “yes I am a DIGO clan”, the third said: “No I am from other clan” and the fourth said: “yes, I am a cousin of grandson of the king”. This result showed that most of the elders were from the descendant of king Aba Jiffar.

### 4.4. Observation Report

Observation was conducted for the purpose of cross checking what was gathered from FGD and structured interview match results in observation by preparing a check list that is demonstrated in table below. As of the researcher observation actual number of individuals/Elders representative was counted, any word used, action performed during complain submission, after judgment forwarded and all other activities were documented and a note was taken.

In addition to the observation check list there were pictures taken during the ritual ceremony, the focal group discussions were recorded using audio recorder and some moving pictures that show presenting a case for the elders and conducted interview to one of the client who was waiting a final decision from the elders were captured with video recorder. After accepting the folder the individual will be told to leave the place immediately by the elders then they perform an action of handling the ground to solve his case honestly and with truth only and then continue to hear the former cases, this action was recorded in videotaping.

**Table 9: Result from observation**

Results obtained from the observation					
No	Check list activities	For elders		For disputant	
		Mana	Mareqo	Mana	Mareqo
1	Number of Participating	8-12	8 for each	1-2	1

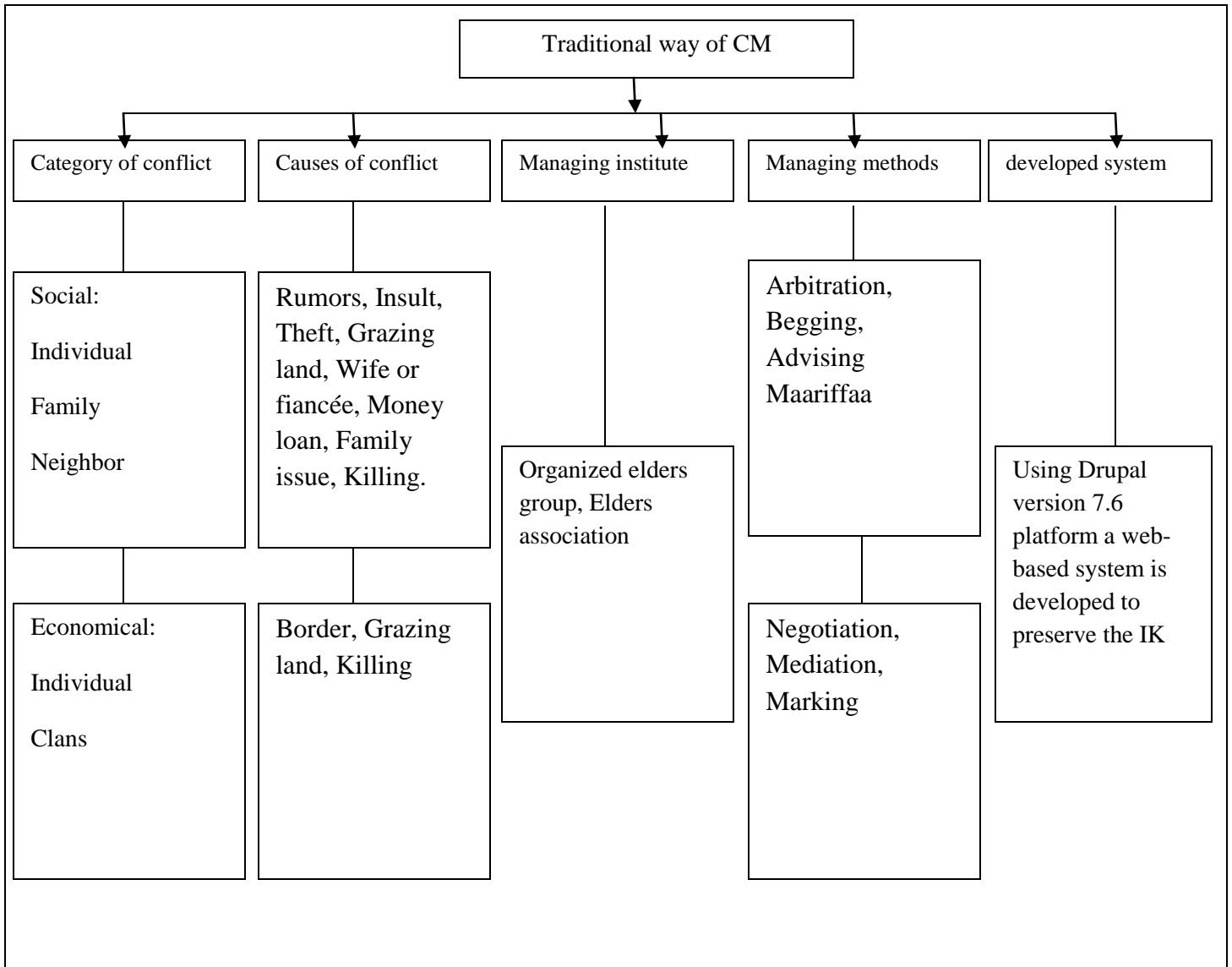
	Members				
2	The setting Arrangement	Keeping in order	In order	In front of Elders standing	In front of Elders standing
3	Getting information about Place of Meeting	Elders leader	Elders leader	Elders appointment	Elders appointment
4	Getting information about Time and date	Elders leader	Elders leader	Elders announced	Elders announced
5	Any word used	No		no	
6	Action performed on getting together	greetings	Accept file, put their hand on the ground,vow	Present or tell the case	Justify the case
7	Action performed during the ritual	Debate Listing	Debate Listing	Debating, verifying	Debating, verifying
8	Action performed after judgment pass decision	Advice and warn rivalry	Order disputant to swear by term	Call a bail person for disobey	Spray honey made fluid
9	All ritual looks like				

## 4.5. Framework and Architecture

From section 2 it was constructed the conceptual frame work for TCM by reviewing some literature, but here this study adds the system development based on this study works. In order to achieve the third and fourth objectives of this research modified conceptual framework and architecture design were prepared. In this section the framework and architecture are discussed.

### 4.5.1. Conceptual framework

The conceptual framework was prepared based on the results obtained from qualitative data and preservation system development. The constituent are conflict categories, current time conflict causes, conflict managing institutions, conflict managing methods and system development.



**Figure 4: Resulted conceptual framework for TMCR**

Unlike the literature reviewed in section 2, the categories of conflicts are only two those were social and economic. Because of elders’ effort to manage simple conflicts that may enlarge to political conflict category, there were no political issues. Conflicts under those categories are individual, family, neighbor and clans. Most current time causes of conflicts are rumors, insult or disrespect talk, theft, border, grazing land, wife or fiancée, money loan, family property belongingness and killing.

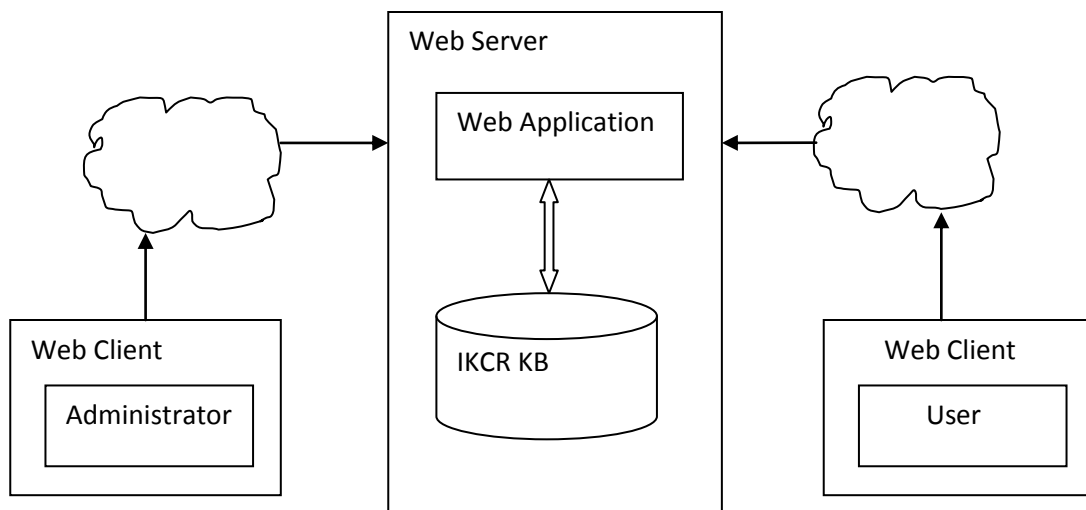
The available conflict managing institutions are organized elders groups in Mana woreda and Libido Mareqo conflict Resolution Corporation which assembles every Monday of the week in popularly known place to listen any cases related to conflicts. Among the methods used to manage conflicts some are negotiation, mediation, arbitration, begging, advising and “Maariffaa” which mean to make agreement by telling false evidence to each other of disputants.

The other component of the framework is system development, the application system of indigenous knowledge for conflict management was developed using Drupal 7.6 software. It is a platform for content management; it has become one of the most important content management platforms to be used for the back-end system (ITSolutionCompany, 2015). DRUPAL was aimed at building robust applications in an organizational context, and suitable to give developers full control over the configuration: from the directory structure to the foreign libraries, almost everything can be customized. To match enterprise development guidelines, it is also an editing framework with additional tools to help developers test, debug and document projects (ITSolutionCompany, 2015).

#### 4.5.2. **Architecture Design**

The architecture of the system designed with components like the web server constituting web application and data base, user and administrator logging application with integration through internet cloud, both the administrator and the user login in to the web application using Internet to use and/or contribute to the IKCR web based system. Figure 4.6 below depicts how the system was organized using those set of communicating components.

The system requires a user to be register or signup when any of them came to visit it, in which it sends a confirmation mail, the administrator of the system should permit access to the system after legality and appropriate check and then they will be able to see, download and even upload contents related to indigenous knowledge for conflict resolution. So this web based application system facilitates not only access of indigenous knowledge but also it opens a room for users to preserve a video, audio and image contents related to conflict resolution.



**Figure 5: Architecture of the TCMC**

In the above figure the web server is a server where the web application and the IKCR knowledge base are hosted on, the administrator is the one who manage the system and the user is any individual who want to visit and search out what is in the system.

#### **4.6. Major Findings of Results**

Both quantitative and qualitative data were collected through previously mentioned techniques and tools. For the purpose of sharing the IKCM practices from Mana and Mareqo woredas, the findings were organized. So the organized data were checked and analyzed with the steps expressed in previous section. Thus from the above quantitative and qualitative results the following major findings were earned. As the demographic information result indicated, all of the participants were from local governmental organizations, equipped with the necessary education, experienced, can be categorized in active working class age group, comprising both gender, and their working position is associated with the prevention and maintaining of peace. Such kind of result assured that there is required man power that can be successful in preservation and dissemination of the IK using new technology.

The other finding is those employee are well aware and insisted the documentation they have been using need to be backed by technological innovations. Hence the researcher of this study found that there is a need to improve the current preservation mechanism technological advancement.

From the qualitative result, there are TCM practices in Mana and Mareqo woredas that has a local name of “Jaarssumma” and “Raga-Maga” respectively. This practice defined as a means of managing conflicts with the efforts of elder groups and brings peace among the community. Also it is very effective; conserve time and cost; perjury intolerance, and so many other benefits. So the traditional way is advantageous when compared to modern means.

The other aspect which was identified from the elders’ knowledge is that how they manage conflicts, by describing category of conflicts and the current causes of conflicts they putted the ways to manage it. So it was found that conflict category are; individual, family, neighbor and clans timely causes are; border, grazing land, rumors, insult or disrespect talk, property, theft, competition for wife or fiancé, money loan, killing and etc. The mechanisms used to manage those conflicts are arbitration, mediation, negotiation, begging, advising, marking with plant, and “Maariffaa” that is a local word just to mean conciliation by telling false evidence.

There are some proverbs, trends, and procedures during the ritual ceremony which are unique findings of this research. Proverbs in Mana woreda were “kiissii fi sareenhinnaatantu” that means compensation and dog never be eaten; “Haabuluu” this proverb is used when elders confronted to manage a complicated case and if they needed more time, they will be forced to let it stay for a longer time. In Mareqo woreda there was no proverb used. Some existed trends during the ritual was elders need to show no emotion, not present themselves as a witness, no movement is allowed until it ends successfully, vowing act called “Tiroo” and “Feroo” performed by the witnesses. Concerning the procedures, the ceremony is conducted in setting on wet leaves and mostly performed under a big tree called locally “Odaa”, at time of presenting an issue by the one who thought as a victim, the elders vow to handle the case with fair judgment by putting their hand on the ground.

#### **4.7. Web-based System Development**

To achieve the fifth objectives of this study, a web based application system was developed to preserve and transfer the indigenous knowledge for conflict resolution which was endangered of being lost. The system development reflected the requirements suggestions to develop which was collected from governmental organizations’ questionnaire data, considered the portability to find

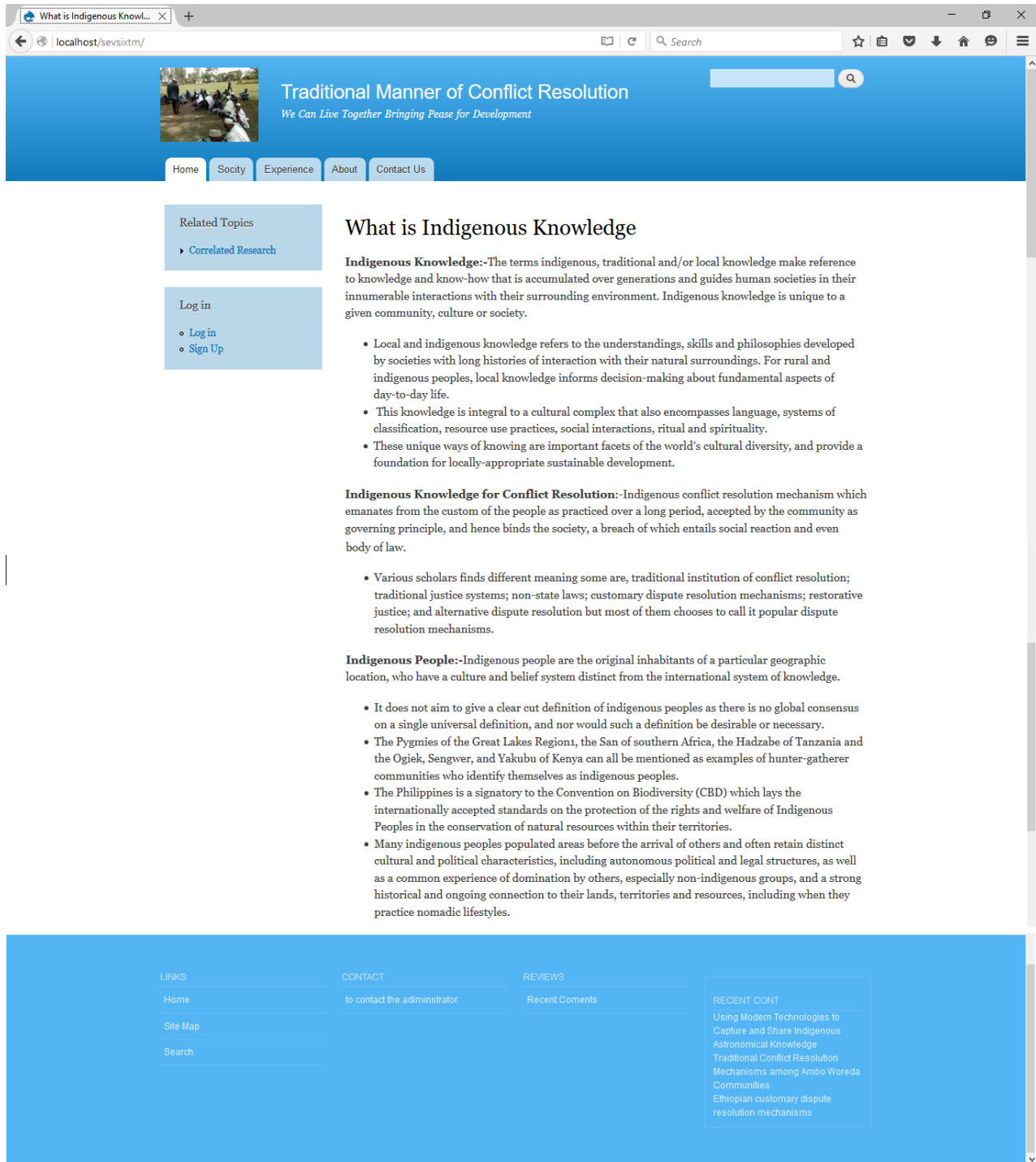
and access it by the young generation and reserving the most valuable knowledge in to safe place.

#### 4.7.1. Feature of the System

The developed system has features that include what was suggested from stakeholders professionals, those are home page, users logging or/and any one requesting a new account, content uploading, content downloading, search and directing links to different related topics. Screenshot of some pages are as follows:

From the home page any user can be able to visit all the contents inserted. As it is demonstrated in the figure below, it has a menu that provide users what the system can do, related topics, and a block that lead a user for sign up or login page. Users are also provided a mechanism to search files and documents according to their role of access and later they can download it. Among the menus there is an emergency link that directs users to inform the type of possible occurrence of conflict there might be arise.

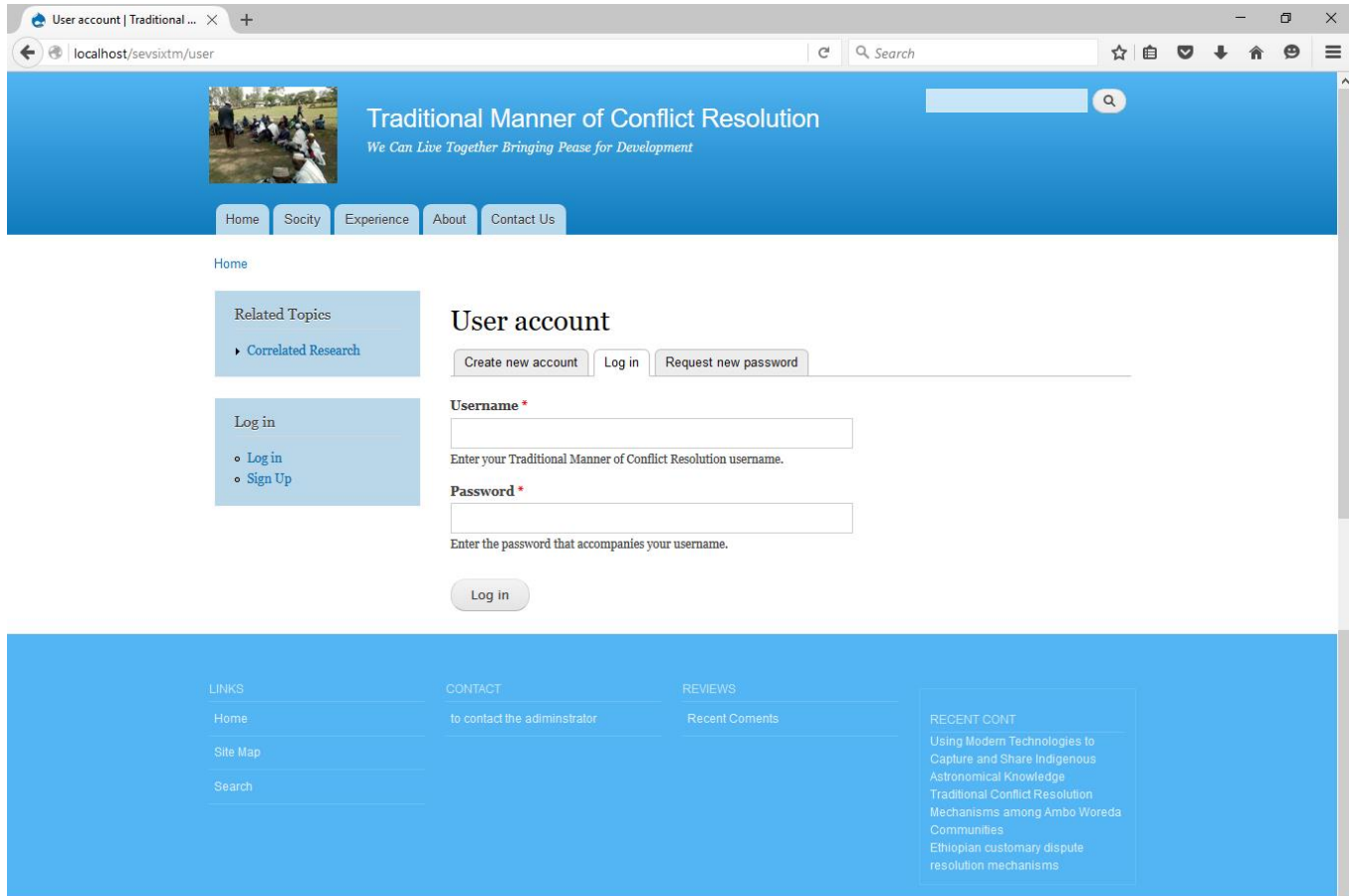




**Figure 6: Home page of the system**

By entering the username and password the administrator and authenticated users can login in to the system but a new user should be registered to get account by clicking on the create new

account or users who already got account can request a new password. So here is the page that appears when clicked on create new account link.

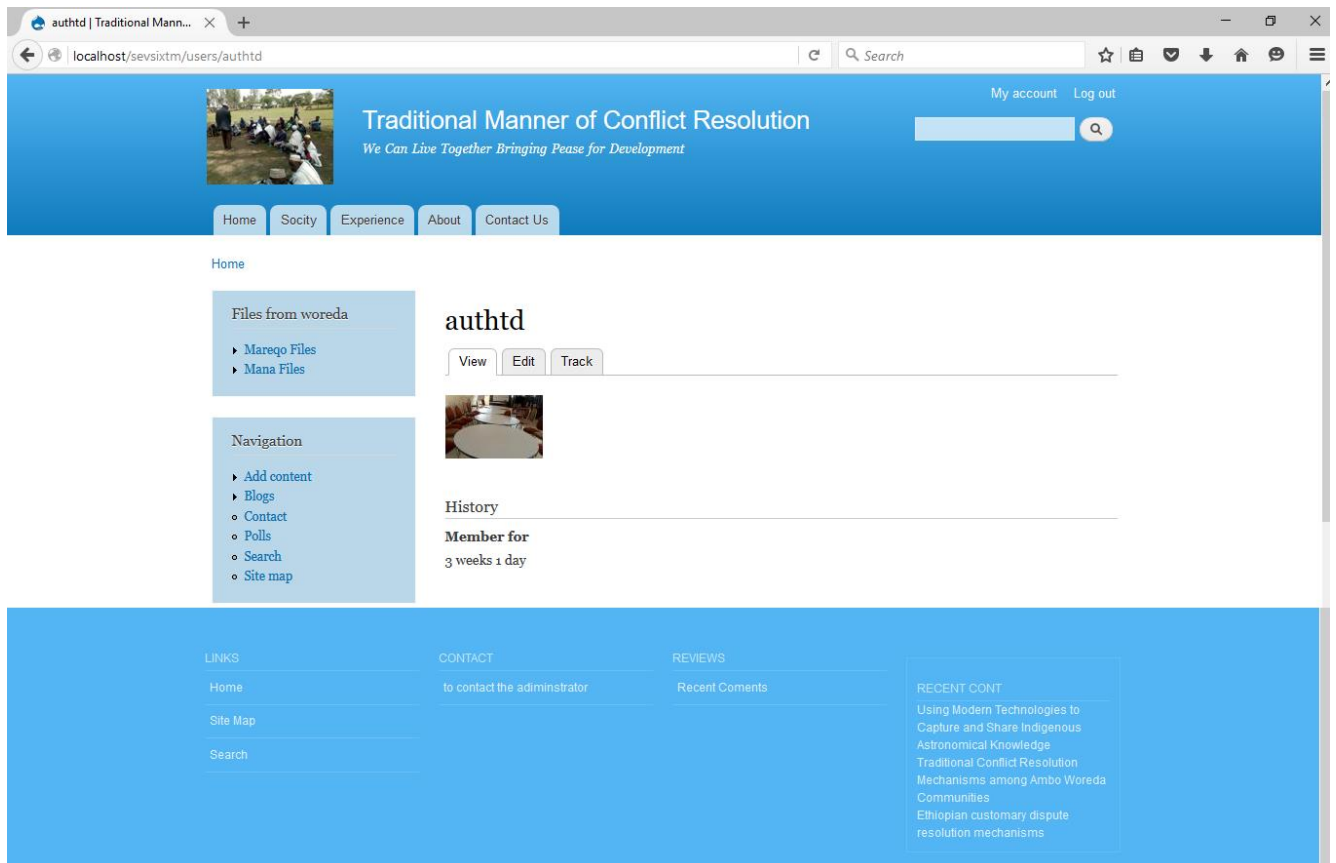


**Figure 7: User account page**

Users once they are registered and login they are allowed to view their and others user profile except the profile of the system administrator.

Here is the user profile page as particular user view his profile. This page will appear immediately when a user logged in after that this page can be viewed by clicking on my account navigation link in the left corner of the page.

There is an edit and track menu when users view their profile that helps them to edit their own profile and track what content they contributed to the system in the previous time and in current time.

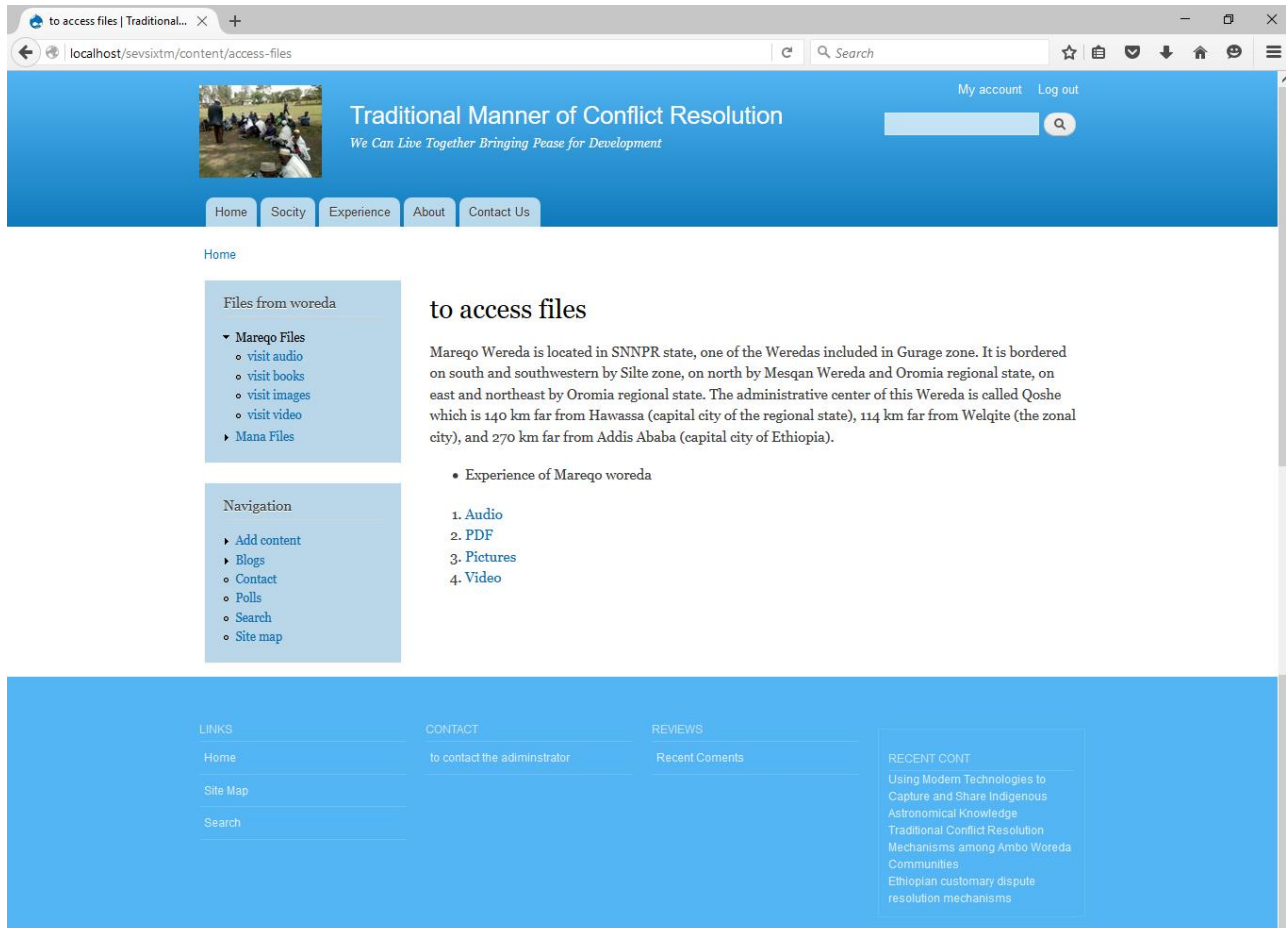


**Figure 8: User profile page**

Using important links and navigation menu blocks in the left side of the page which will be visible after a user are logged in they can download books, pictures, audio and video files from the important links menu and upload files in the above directory with the navigation menu.

This page in particular gives options for authenticated users to choose the type of content they want to insert by creating a content type. As of their interest users can click on the redirecting links to move to the file and document insertion page.

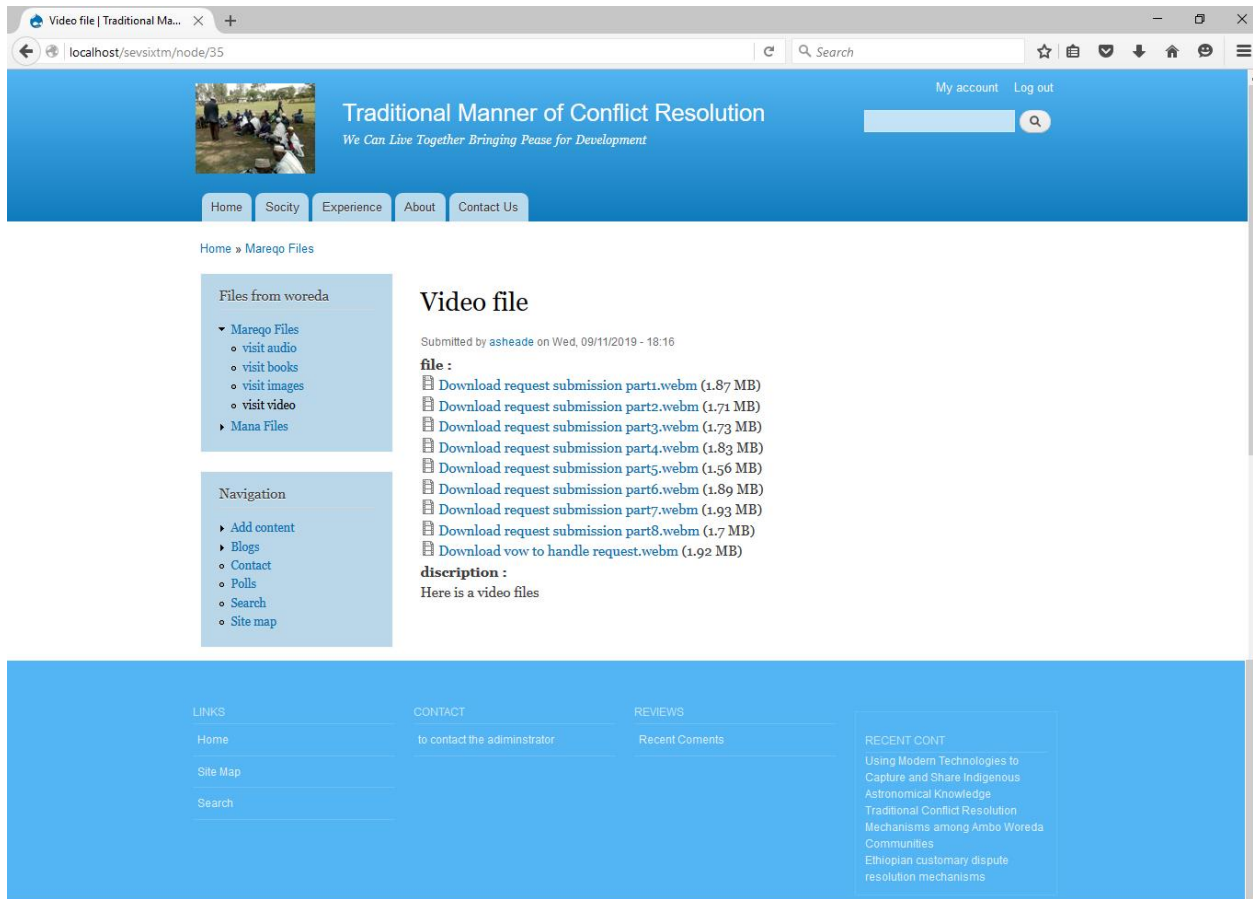
Here is the figure which shows the screenshot of the page.



**Figure 9: File accessing page**

The file downloading page facilitates the types of file contents in different formats to be viewed by user, but the user must have a user account in the page and must logged in.

The type of files listed or available in the page are audio, text, image and video, so a user with downloading privilege can view and download to use it.



**Figure 10: File downloading in video format page**

Here in the figure below users can add files.

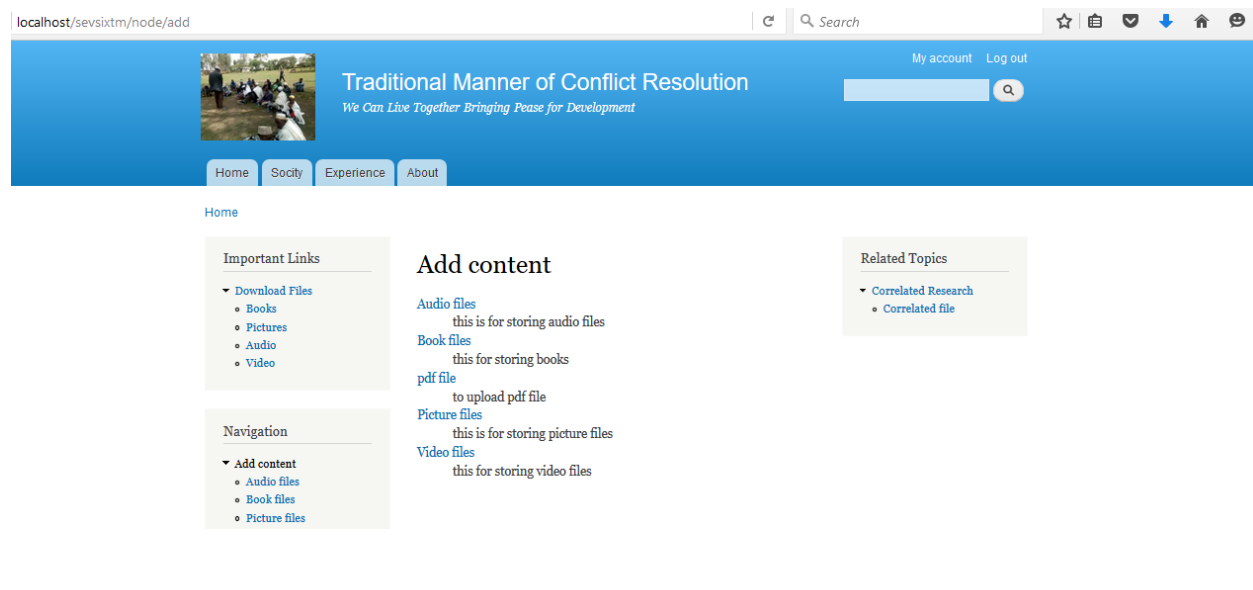
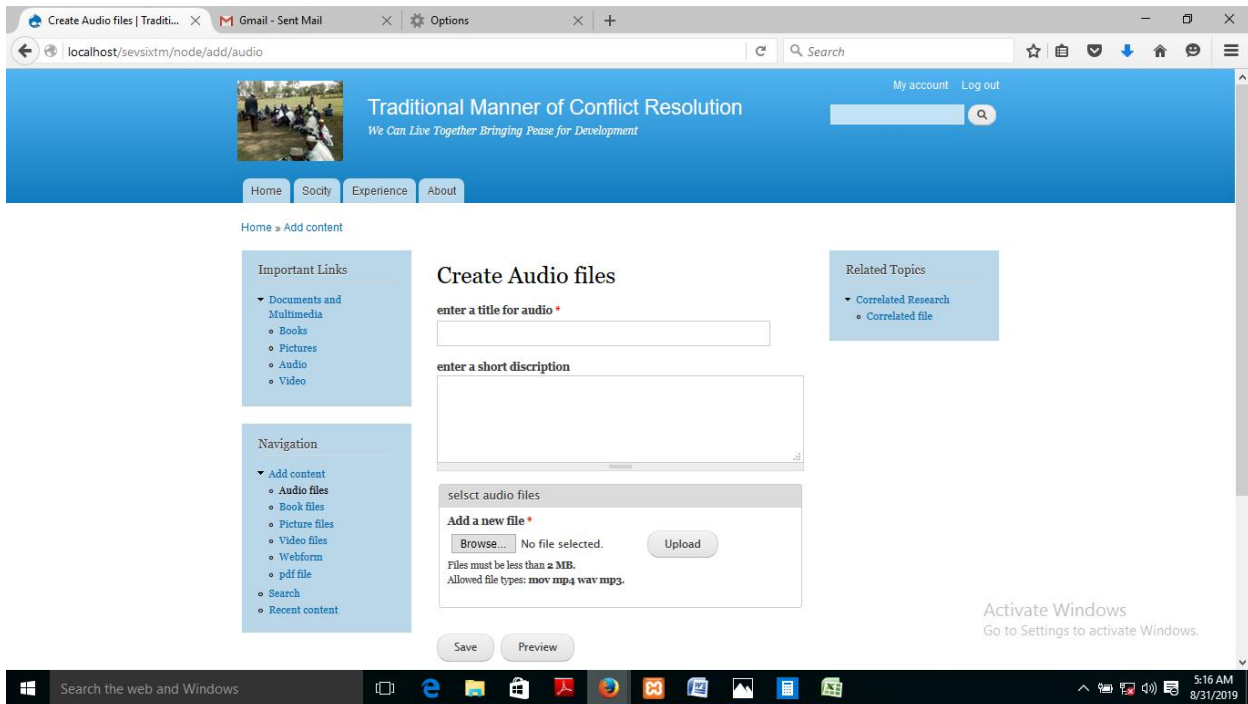


Figure 11: File uploading page



The below figure show that how a user search page looks like.

Figure 12: File selection to be uploaded and save page

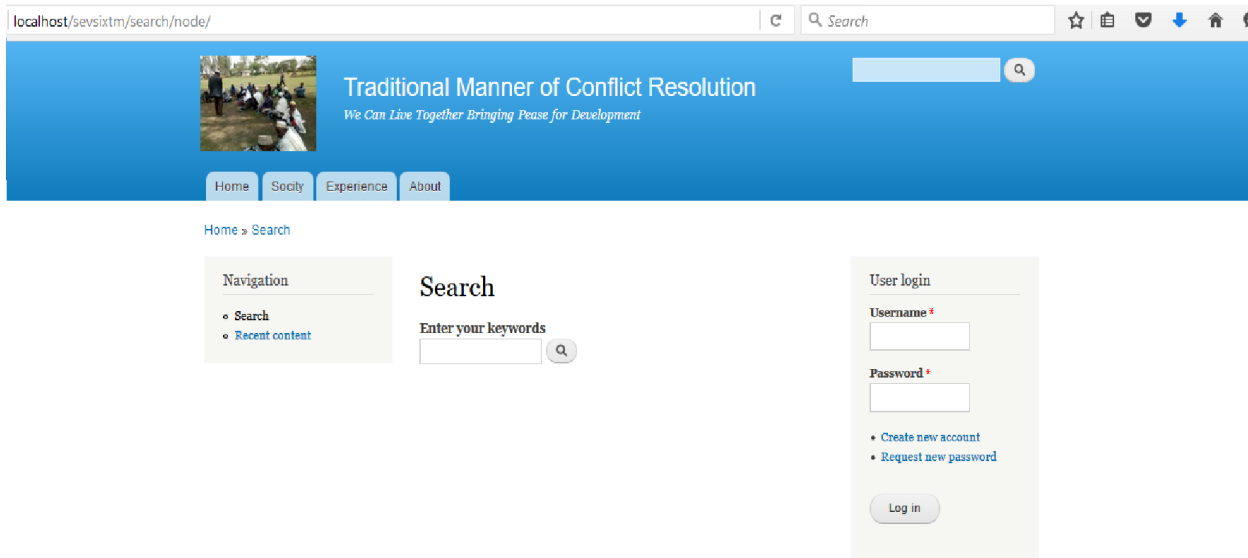


Figure 13: File search page

## 4.7.2. Online evaluation of the application system

Concerning evaluation of the system the developer arranged a comment gathering feature on the application system in order to get users thought about the particular post and overall system objectives that will play a crucial role in improving the development of the system and the contents that must be posted. This feature can give a feedback about the role the system should play and how it should be reconstructed if any content needs are applied.

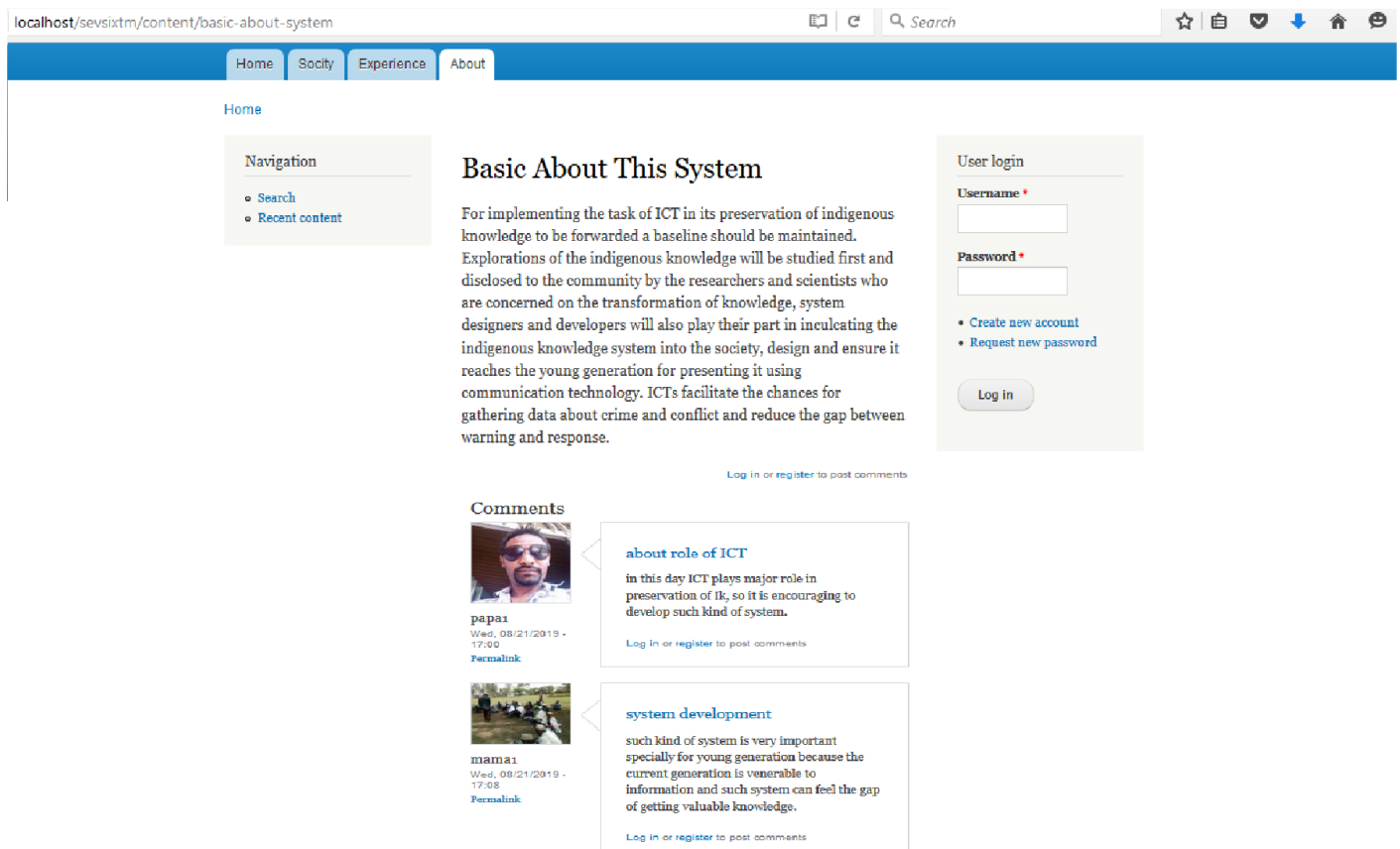


Figure 14: Feedback access page

## 4.8. Discussion

Traditional manner of conflict resolution have been contributing and still playing its part in solving almost all sort of conflicts within the community in different parts of the country. It came from a long way from generation to generation to rich to this current time with which it faces circumstances of lost, some published document witnessed that such tradition starts from 13<sup>th</sup> century (Walelign, 2012). To preserve and exchange such precious indigenous knowledge the researcher tried to explore the practice of traditional manner of conflict management in southwest Ethiopia.

There are a lot of conflict resolution practices in traditional manner but its preservation and exchange tasks were determine by how current governmental organization structure organized. Organizational initiative and systematic approaches used by those organizations; methods used by elders; active participation of young generation. As indicated in section 4.1 above all governmental organizations were not in short of needed human power to advocate or get the job done. Since a much educated and experienced professionals are found on place, elders were devoted to pass their knowledge and younger were willing and want to learn from their elders. Moreover, the professionals were aware of the practices of such indigenous knowledge for conflict resolution well, fully confident there were no problem in preserving and exchange of such knowledge, and they believed that system development is needed.

Indigenous communities mostly use oral communication or hands-on experience such as apprenticeships, ceremonies, practice and other to preserve and transmit their knowledge. However, young people are losing these skills, because they spend more time at educational institutions than with elders in the community. Preservation of indigenous knowledge is important, because it ensures the continuation of the community with its knowledge. If indigenous knowledge is not recorded and preserved, the knowledge will be lost through the death of elders and traditional leaders in African communities (Sylvia, 2014). Even if the governmental organization stakeholders explained that their organization has initiative to preserve IKCR by documenting it helped with taking picture and text, but it did not long last to exchange, it only used for reporting to a higher hierarchical organization level.



The experiences of knowledge for development initiatives in international cooperation underscores the complexities and difficulties associated with knowledge but these have contributed to the understanding of the nature of knowledge that has impact on development. It is clear that knowledge is both a process and a product; it is dynamic and mostly available in the “heads” of individuals and also embedded in a practice of livelihood. The creation of knowledge is complex; its sharing requires diverse tools for translation, conversion, filtering and two-way communication and interaction(Adam, 2005).

Despite acknowledgement of the important role indigenous knowledge plays in sustainable development and peace building, many governments, donors, and NGOs appear to make little use of this valuable resource. Such knowledge was not supported by technology as its preservation and exchange were handled unorganized and unmanaged by either of those responsible institutions to be used in a nationwide coverage. New technologies can offer new opportunities for managing conflict and building peace, particularly at the local level. Beyond assisting in conflict prevention, participatory data collection and processing tools can empower communities to resist violence and recover after conflicts(ITU, 2012).

Among the results from the respondents were that none of them was not experienced the use of a system application that preserve indigenous knowledge for conflict resolution (IKCR) when asked about have you ever used IKCR system. This result could come from the unavailability and shortage of information regarding such system. The preservation, management, and sharing of indigenous knowledge is crucial for social and economic development in rural Africa. The high rate of illiteracy (print-based) in rural Africa and the exclusion of indigenous knowledge from Western education add to the information gap experienced in rural Africa. Other challenges facing oral cultures are the disappearance of traditional knowledge and skills due to memory loss and the deliberate or inadvertent destruction of indigenous knowledge(Sylvia A. et al, 2014).

To make the indigenous knowledge more manageable or usable by young generation and others who need it should be incorporate scientifically. Incorporating indigenous and scientific knowledge means integrating information collected from rural people with scientific and technological information. Institutions must find ways to process indigenous information in the

same way as scientific information processed using information and communication technologies (ICT).

Other experience shows that strong government support and involvement in recognizing indigenous knowledge systems is critical for it to gain prominence in development and for promoting innovations and protection of the intellectual property rights of innovators. The government of South Africa for example has developed a policy on indigenous knowledge systems that was adopted by its cabinet in 2004. The policy among other addresses institutional frameworks for supporting indigenous knowledge systems, academic and applied research issues, systems for capturing indigenous knowledge, the promotion of networking among practitioners and legislations to protect intellectual property associated with indigenous knowledge. This policy provides a basis from which countries like Ethiopia can draw on to develop their indigenous knowledge policies (Adam, 2005).

This research aimed to explore IK and develop system for the preservation, from the process of exploration some facts were found and then using tools and instruments those facts were collected in different formats. Organized quantitative and qualitative data were accomplished; after architecture of the system designed application system has been developed and then feed the system with the edited and organized data in audio, video and text format.

# CHAPTER FIVE

## 5. Conclusion and Recommendation

### 5.1. Conclusion

To achieve the objective of this research it was strived to explore the indigenous knowledge for conflict management from the communities of southwestern Ethiopia particularly in Mana and Mareqo woredas and a web-based system was developed to preserve and exchange this indigenous knowledge. The specific objectives of this research namely: exploration of IK, identifying requirements, developing framework, design architecture and developing system are all accomplished. The exploration of IK showed that hence traditional way of conflict management maintain peaceful living environment by finding all possible ways of setting agreements when conflicts are occurred; it has been taking place in both communities for more than a century with its originality from generation to generation with the unique methods.

Conflict can happened any time and between in any social groups as it is a natural phenomenon yet there has to be a mechanism to manage it. Focus group discussions implementation with the elders implies and witnesses who used traditional way said that it is much better effective; perjury has not been exercised; cost and time are saved; a win-win result is achieved. Those facts conclude the traditional manner of conflict resolution is advantages than the modern means. 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 indigenous knowledge for conflict management (IKCM) because of the influence of modern technology and western education. So the explored knowledge is wisdom and precious.

There are many professionals in each woreda who are equipped with the needed qualification, experience and awareness about the services to management conflict with indigenous knowledge of elders. Most of the professionals are workers of government in local organization and there are organizational initiatives to document such practice with new technology. This result lead the researcher to conclude that, as much as availability of conflict management practices they are not applying or using it for the prevalence of conflicts in current time.

The conceptual framework development of this study contributed additional constituent with which the IK is preserved. The constituent were conflict categories, conflict causes, managing institutions and methods, but system development was the new component that is included. The designed architecture indicates how the components such as web server, web clients, and internet integrated to each other. The contribution made by those constituents is defined in unambiguous direction, the interaction method between the web application and its database is on the bases of strong relation that was understandable. To develop software its architecture should be designed.

Developed indigenous knowledge for conflict resolution web based application is a system that provides a way of preserving and exchange the vital knowledge of solving conflicts to future generation. Its development bases on the result from respondents that none of them had ever used this kind of web-based system, so developing a system is important. This study considers the need and fills the gap of IK preservation via web-based system. Before the system were developed the actual practices of traditional way of conflict management were explored and documented well using different data collecting methods for qualitative data.

## **5.2. Recommendation**

Even if local governmental organizations initiatives to preserve indigenous knowledge are promising, it should be more organized, supported by ICTs and open a door to other none governmental and private stakeholder institutions. Elders' indigenous knowledge to solve conflict is unique; contribute in keeping peace; support development of the country; has its own norms and traditions, so its continuity must be backed by all responsible actors including government and non-government organizations, elders and young generations. The vital issue that seeks to given attention is the fading of such priceless knowledge in time via advancement of modernization, providing less value to own culture, falling to western education and lack of awareness towards purpose of technology and many other.

In minimizing the danger of losing IK, in facilitating necessary infrastructure, in knowledge exchanging mechanisms, in acquiring of all important indigenous knowledge from the elders and

in general factors that must be considered the following recommendations are provided based on this research findings.

- ✚ Using new technologies like ICT tools, documenting materials and procedures, policies, rules and reservation of IK mechanisms in libraries, museum and heritages archives is recommended.
- ✚ Encourage young people to visit, use and learn about what the original culture of their ancestors look like should be a mandate of the government.
- ✚ Create conducive environment for scholars to explore and preserve IK particularly in conflict resolution so that the knowledge will not be lost.
- ✚ Here government organizations in lower structure need to play the lion share for preparing a way to access practices of conflict resolution for the community, advertising work should be enhanced.
- ✚ Elders who are owner of the knowledge should reconsider the mechanisms that how young generation could be benefited from their knowledge. The young generations are recommended to examine what the elders actually do with devotion and involve themselves into the process passionately.
- ✚ This study was limited to include only experience of Mana and Mareqo Weredas IK because none conducive environmental and unsettled community peace that dictated the researcher to get an opportunity exploring the IK of other community of the country. When a stable condition assured further exploration need to be conducted for preservation of the knowledge from the community and sharing it is necessary.
- ✚ There were a place and information limitation to do further study and developing an application which is applied to fit in mobile phone (Android application) for preserving the knowledge that was limited in this study with a reason to find undergraduate student who can work in cooperation in this area. So it is recommended that future studies would develop a kind of web-based application system with android development tools.

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**Appendix A**  
**Jimma Institute of Technology**  
**Faculty of Computing and Informatics**  
**Department of Information Science**  
**Master of Information Science (IKM Stream)**

Questionnaires for Conflict resolution stakeholder institutions members

Dear Sir/Madam,

As a Postgraduate Student in Jimma University Faculty of Computing, Department of Information Science, Master of Information Science in IKM Stream, I am currently undertaking a thesis study entitled “Exploring Indigenous Knowledge for Conflict Resolution and its management for communities in southwestern parts of Ethiopia.” The main Objective of the study is to explore indigenous knowledge for conflict resolution for communities in the southwestern parts of Ethiopia and to manage it by developing a web-based system for its preservation, and transfer particularly in Mana and Mareqo Weredas.

This survey is designed for stakeholders related to traditional manner of conflict resolution. Because of your relevant expertise, you are kindly requested to take and complete this questionnaire at your earliest convenient time. Your responses to the questions below, which will assist in making this study a success, will be treated with utmost confidentiality. If you have any questions or concerns about completing the questionnaire or about being in this study, you can contact me on cell phone number +251- 922-135929 or email [ashenafiadere27@gmail.com](mailto:ashenafiadere27@gmail.com).

Thank you for your help by providing your thought and feeling on the need for the requirements of indigenous knowledge for conflict resolution that help to develop Indigenous Knowledge Preservation and Dissemination System (IKPDS) for conflict resolution.

**Direction**

This survey asks for your perception and experience about the need for the requirements of indigenous knowledge for conflict resolution preservation and dissemination system

development. Because it asks for your judgment, there is no right or wrong answers. Please respond based on your own judgment, regardless of what others expect or what is socially acceptable. **Please circle or put  $\surd$  and provide an answer to the open-ended questions.**

**Part I: - Socio Demographic Information about the respondent**

1. Gender  
Male  Female
2. Age
  - a) 19-25
  - b) 26-35
  - c) 36-51
  - d) > 51
3. Your Experience in Year
  - a) <2 Years
  - b) 2-5 Years
  - c) 6-10 Years
  - d) >10 Years
4. Wereda you are currently working: \_\_\_\_\_
5. Type of organization you are currently working
  - a) International
  - b) National
  - c) Regional/Local
  - d) If any other (Specify)\_\_\_\_\_
6. Category of organization you are currently working
  - a) Governmental
  - b) NGO (Non-Governmental)
  - c) Private Sector
  - d) Other (Specify) \_\_\_\_\_
7. Name of organization you are currently working \_\_\_\_\_

8. Your level of Education

- a) PhD
- b) MSC/MA
- c) BSC/BA
- d) Diploma
- e) Certificate
- f) If any other(Specify) \_\_\_\_\_

9. Your job title/position \_\_\_\_\_

**Part II: - To Identify the requirement of Indigenous Knowledge system for Conflict Management.**

1. Do you know the practices of indigenous knowledge for conflict resolution in your community?

- Yes       No

2. Have you ever used indigenous knowledge for conflict resolution preservation system

- Yes       No

3. If you answered yes for question number 2 where do you search for indigenous knowledge for conflict resolution system?

- a) My organization IKCR preservation system
- b) Private IKCR preservation system
- c) Neighboring University Library
- d) Web Search Engines
- e) If any other specify \_\_\_\_\_

4. If you answered yes for question number 2 which Indigenous Knowledge preservation Database do you frequently use in order to search for traditional conflict resolution mechanisms about your local Indigenous Knowledge (IK) need?

- a) My organization IKCR preservation Database
- b) Private IKCR preservation Database
- c) Web Search Engines
- d) If ant others specify \_\_\_\_\_

5. Do you think there is a problem of indigenous knowledge preservation and exchange among stakeholders and others?

Yes       No

6. Do you think there is a need for an indigenous knowledge system to be used to preserve and disseminate indigenous knowledge for conflict resolution?

Yes       No

7. Does your organization have the initiative to develop Indigenous knowledge for conflict resolution preservation and exchange?

Yes       No

8. If your answer for question number 7 is yes what approach your organization is using and what is its status?

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9. Do you think lack of application system to preserve and disseminate Indigenous Knowledge for conflict resolution has a negative impact on community development?

Yes       No

10. If your answer for question number 9 is yes can you mention those impacts? If your answer for question number 9 is No Why?

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11. Do you think a lack of application system to preserve and disseminate Indigenous Knowledge for conflict resolution has a positive impact on community development?

Yes       No

12. If your answer for question number 11 is yes can you mention those impacts? If your answer for question number 11 is No Why?

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---

13. Do you think development of application system to preserve and disseminate Indigenous Knowledge for conflict resolution necessary for all the community in Ethiopia?

Yes       No

14. If your answer for question number 13 is yes, can you mention those impacts? If your answer to question number 13 is No Why?

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15. How will you use the Indigenous knowledge application system if it is developed and implemented to your organization?

- a) Very extensively
- b) Extensively
- c) Neutral
- d) Rarely
- e) None

16. In your opinion what features should the application system include for you to use it efficiently and effectively? Can you list them?

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17. Once the application system is developed who you suggest to manage/own the system and why?

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**Part III:-Based on your experience, please give your suggestion.**

1. What do you think about indigenous knowledge for conflict resolution accessibility in your organization?

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2. How easy is it to know and contact indigenous peoples for traditional conflict resolution needs?

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3. What do you think about your organization's fully involvement in the preservation and dissemination of indigenous knowledge for conflict resolution?

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4. What do you suggest for your organization to use a Web-Based application system for preserving and disseminating indigenous knowledge for conflict resolution?

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5. What will be your contribution if your organizations have a Web-Based application system to preserve indigenous knowledge for conflict resolution?

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## Appendix B

Focal group discussion (FGD) questionnaires for Elders for gathering Indigenous Knowledge for conflict resolution for communities of the southwestern parts of Ethiopia specifically Mana and Mareqo Wereda area.

1. How do you see the traditional/indigenous manner of conflict resolution?
  - a) What does it mean? \_\_\_\_\_
  - b) It's effectiveness? \_\_\_\_\_
  - c) How long does it take? \_\_\_\_\_
  - d) Who takes the initiatives and why? \_\_\_\_\_

---
2. The categories of conflicts in the community. (Example : individuals, family, neighbors etc)
  - a) What are the categories? \_\_\_\_\_
  - b) Is there special occasions, rituals, procedures etc to be done? If so explain it in detail? \_\_\_\_\_

---
3. What are the methods you use for resolving conflicts between the communities in each category? (Example: Conciliation, Negotiation, arbitration etc.)

---
4. What are the causes of most conflicts in these days? (Example: between individuals, family, neighbors etc.)

---
5. What do you do (action taken) if the conflicting parties tend not to keep their words in accordance with the decision of the elders?

---



6. What is expected from the two parties once they agree on the decision of the elders?

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7. What do you call the resolving of conflict process, is there any special local name you provide for it?

---

8. What are the most common proverbs you use during the assembling for conflict resolution?

---

9. What trend is there on the ritual of traditional manner of conflict resolution?

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10. How is it seen by the younger generation? Are they accepting and vow to continue using it or are they ignoring it?

---

11. Compared to the modern means of conflict resolution, what is the traditional means lacking, what is its advantage over the modern means?

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**The following question is going to be used for structured interviewing for Elders**

1. What is your educational status? \_\_\_\_\_

2. How long you served in this traditional manner of conflict resolution? \_\_\_\_\_

3. Which community part do you represent (elders, religion, locally respected)? \_\_\_\_\_

4. Where did you get such knowledge of resolving conflict? \_\_\_\_\_

5. Do you intend or plan to pass your knowledge of resolving conflict to the younger generation? If you do how? \_\_\_\_\_

6. Do you have a blood relation with King Aba Jifar? If yes what is your relation? \_\_\_\_\_

**Check list for observation**

- a. How many elders are participating and how many representatives are there in the disputant?
- b. The setting arrangement of the elders and the disputant?
- c. Place of meeting for conflict resolution purpose?
- d. Time and date of the meeting for conflict resolution purpose?
- e. Any different words that the elders and the disputant use?
- f. Any action performed on getting together for the ritual?
- g. Any action performed during the ritual?
- h. Any action performed after the elders pass judgments?
- i. What is all the ritual process looks like?

**Check list Activities for observation in table**

No	Check list activities	For/by Elders	For/by Disputant
1	Participating Members number		
2	The setting Arrangement		
3	Place of Meeting		
4	Time and date		
5	Any words used		
6	Action performed on getting together		
7	Action performed during the ritual		
8	Action performed after judgment passed		
9	All ritual look like		

## Appendix C

### Web-based system development methods

1. Drupal version 7.6 and Xampp version 3.4 downloaded from drupal.org
2. The software obtained from the site was installed
3. Many modules and themes are added
4. Customary installation of menus, blocks, all contents on the dashboard were rearranged
5. Different pages were created for the content management
6. Feeding the system with the data was accomplished.



**JIMMA UNIVERSITY**  
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Ref.No 24/07/20/2011  
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Date 21/09/2011

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Mohammed Badeg Kebede

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Administration Office Head of  
Mareko Wereda



Mootummaa Naannoo Oromiya  
 Godina Jimmaatti Waajjira  
 Bulchiinsu Aanaa Maannaa  
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Lakk B Am B C 14 / 5412

Guyyaa 5/10/2011

W/ra Bulchiinsa Ganda Buxuree tiif

Dhimmi isa:- deggarsa gaafacnuu ta a

Akkuma armaan olitti tuqamuuf yaalametti barattoota Ebbifamtoota Universiti Jimmaa kan ta'an Ashennafii Adere kan jedhaman hojii qu'annoo akka gaggeessaniif Universitin Jimmaa Xalayaa Lakk 4/1 07/08/2011 gaafa guyyaa 21/09/2011 barreesseen deggarsa akka goonuuf nu gaafateera bu'uruma kanaan qu'annoo gaggeessanuuf immo Ganda keessan filatamee waan jiruuf deggarsa barbaachisa ta'e akka gootanut kabajaan isin gaafanna.

*Nagaa Waajjin!*



*[Handwritten signature]*

Nabiyuu Muhammad Idris  
 ማህተም ለደረሰ

Itti Gaafatamaa W/ra  
 Bulchiinsaa A' Maannaa  
 በጋርጋጊያ ጠቅላይ ሚኒስትር ጽ/ቤት