

DEBRE MARKOS UNIVERSITY JOURNAL OF INTER-DISCIPLINARY STUDIES (DMUJIDS)



ISSN 2521-8115

VOLUME 3

ISSUE 1

JUNE 2019

Editorial Page
©Debre Markos University
All rights reserved.

EDITOR -IN-CHIEF: YEALEMBIRHAN MOLLA

EDITORIAL BOARD

YEALEMBIRHAN MOLLA

DR. YAREGAL ALENE

DR. GETNET ATINAFU

DR. DEMEKE TASSEW

ASSISTANT EDITOR

DR. YAREGAL ALENE

DEBRE MARKOS UNIVERSITY JOURNAL OF INTERDISCIPLINARY STUDIES (DMUJIDS)

Disclaimers: statements of facts and opinions

Research Articles	Page No
Attitude of Local People towards Collective Management of protected Forest Areas: The case of Choke Mountains, Ethiopia; Yealembirhan Molla -----	1
Knowledge, Attitude and Early Sexual Debut and Associated Factors among HIV Positive Youths in East and West Gojjam Zones, North West Ethiopia: A Cross Sectional Study Nurilign Abebe Moges* ¹ , Habtamu Mellie Bizuayehu ¹ -----	18
Assessment of Insurance Company's Roles in Ethiopian Construction Industries. Ababe Demisew ---	24
የምስራቅ ጎጃም ማህበረሰብ ባህላዊ አለባበስና አገልግሎት ማህበራዊ እሴቶች 'ምንታምር ልንገርህ'-----	31
Relativization in Awngi . Yaregal Allene (PhD)-----	49
Challenges and Opportunities of Learning English in Multicultural Classrooms: Debre Markos University in Focus: Yigzaw Kerebih -----	57
The Matrix of Usucaption Modality under Ethiopian Property Law Zemenu Tarekegn Debre Markos * Un, t	65
Wind Energy Data Analysis and Resource Mapping of East Gojjam Zone, Amhara Region. Addisu Dagne ¹ , Aynalem Worku ² -----	73
Estimating Soil Loss Using Geographical Information System and Remote Sensing for Soil and Water Conservation Plan. The Case Of Yisir Watershed, North Western Ethiopia Habtamu Tadele Belay (Mr.) ^{1*} and Demelash Ademe (Mr.) ²	83

Local and International Advisory Board

No	Name	Location	Place of Work
1	Prof. Belay Kassa	Ethiopia	Africa Union
2	Prof. Tirusew Tefera	Ethiopia	Addis Ababa University
3	Prof. Masresha Fetene	Ethiopia	Addis Ababa University
4	Dr. Belay Simane	Ethiopia	Addis Ababa University
5	Dr. Endaweke Yizengaw	USA	
6	Prof. Demel Teketay	Botswana	
7	Prof. Teshale Tibebu	USA	
8	Dr. Benjamin Zaitchik	USA	Jhon Hopkins University
9	Prof. Jonathan Patz	USA	University of Wisconsin-Madison
10	Dr. Getie Gelay	Germany	Hamburg University
11	Prof. Baye Yimam	Ethiopia	Addis Ababa University
12	Prof. Yitaye Zelalem	USA	
13	Prof. Abebaw Gashaw	Ethiopia	Jimma University
14	Dr. Tilaye Gete	Ethiopia	Ministry of Education
15	Prof. Afework Kassu	Ethiopia	State Min. of Science and Technology
16	Prof. Darge Wole	Ethiopia	Addis Ababa University

Debe Markos University Journal of Interdisciplinary Studies (DMUJIDS)

Debre Markos University, as part of its mission, is responsible not only to assist its academic staff to conduct problem solving research but also to disseminate research findings timely and appropriately. To this end, it has been publishing the research findings on annual symposium proceedings. However, the demand from the academic staff to have a scientific journal to publish their works initiates the launching of Debre Markos University Journal of Interdisciplinary Studies,(here after referred to as DMUJIDS), the first journal in the history of the University.

DMUJIDS is an interdisciplinary journal that aims to contribute knowledge to the academic world by publishing original research works from various disciplines. Our dedicated technical and editorial team members from different fields of studies ensure the quality and standard of the journal.

1. Aims and Scopes

This journal is published bi-annually and is peer reviewed, dedicated to issues in all disciplines. The journal publishes original researches and review articles in areas of agriculture, technology, science, health, business, justice and humanities. The journal addresses both theoretical and empirical problems related to the areas of study aforementioned.

2. Submission of Manuscript

Authors should read the "Instruction for Authors" section below before making a submission. Manuscript should be prepared according to the style and specifications of the journal's policy (APA style). Submission should be electronic, provided that the text, tables, and figures are included in a single Microsoft Word file in Times New Roman font. A cover letter that contains the corresponding author's full address, i.e. telephone/fax numbers, should be sent to the editor as an attachment with the file name that begins with the first author's surname. The author(s) may also suggest three to five reviewers for the manuscript, however, DMUJIDS may designate other reviewers.

The submitting (corresponding) author is responsible for ensuring that the article's publication has been approved by all the other coauthors. It is also the author's responsibility to ensure that the articles emanating from a particular institution re-submitted with the approval of the necessary institution. Authors listed on the manuscript should meet the requirements for authorship specified above. The contribution of each of the authors shall be specified.

All authors should approve the final version of the manuscript prior to submission. Once a

manuscript is submitted, it is therefore assumed that all authors have read and given their approval for its submission. Only an acknowledgement from the editorial office officially establishes the date of receipt. In this regard, a manuscript number will be mailed to the corresponding author within two days. Further correspondence and proofs will be sent to the corresponding author before publication unless indicated otherwise.

3. Instructions to Authors

DMUJIDS welcomes the submission of manuscripts that meet the general criteria of significance and scientific excellence. English is the official language of the journal. Before submitting articles to the journal, authors must confirm that the submitted manuscript is their original work and it is not published or submitted to other journals concurrently. Conflict of interest should be clearly stated, the sources of data used in the development of the manuscript should be properly acknowledged, and all errors discovered in the manuscript after submission must be swiftly communicated to the editor.

3.1. Manuscript preparation guidelines

Preparation of the manuscript to be published in DMUJIDS should be made as per the following guideline.

3.1.1. Manuscript preparation Checklist

All the articles should adopt the APA style (latest edition) and should include the following items as per their order.

3.1.2. Manuscript preparation checklist

As part of the submission process, authors are required to check off their submission's compliance with all of the requirements stated in this guideline. Submissions which do not adhere to this guideline will not be considered.

3.1.3. Types of articles considered for publication in DMUJIDS

Original research papers, review articles, correspondences (letter to the editor), short communications, case reports, and new perspectives are eligible for publication in this journal.

3.1.3.1. Original Research paper

Papers should be prepared in A4 (8.27X 11.69") page size, using standard fonts with size of 12, double-space with at least 1" (2.5cm) margin all around. All pages should be numbered starting from the title page. Times New Roman fonts must be used and remain uniform throughout the text.

The authors must strictly adhere to the proper format of the journal for all sections of the manuscript. Reference should be made to papers in recent issues for the general layout of the paper and also for details. For authors whose native language is not English, DMUJIDS strongly recommends serious edition of the language of their manuscripts before submission to avoid delays in receiving and processing the publication.

The manuscript should be organized in the following order:

A. Title

The title should be a brief phrase accurately describing and reflecting the contents of the paper. The title page should include the author's full names and affiliations, the name of the corresponding author along with phone, fax, E-mail information. Present addresses of authors should appear as a footnote.

B. Abstract and Keywords

The abstract should be informative and completely self explanatory. It should briefly present the topic, state the scope of the study, indicate significant data, and point out major findings and conclusions. The abstract should not be more than 300 words. Complete sentences, active verbs and the third person should be used. The tense should be in simple past. Standard nomenclature should be used and abbreviations should be avoided. No literature should be cited. Following the abstract, about 3 to 7 keywords that may provide indexing references should be listed.

C. Introduction

The introduction should provide a clear statement of the problem, the relevant literature on the subject, and the proposed approach or solution.

D. Methodology

Materials and methods should be complete enough to allow the study to be produced. However, only truly new procedures should be described in detail; previously published procedures should be cited and important modifications of published procedures should be mentioned briefly. Methods in general use need not be described in detail.

E. Results/Findings

Results should be presented with clarity and precision. They should be explained, but largely without referring to the literature. Discussion, speculation and detailed interpretation of data should not be included in the results but should be put into the discussion section.

F. Discussion

The discussion should interpret the findings in view of the results obtained in this and in the past studies on the topic. This section can include subheadings, and when appropriate, both sections can be combined.

E. Conclusion and Recommendations

State the conclusions in a few sentences at the end of the paper. Your recommendations should be related to your discussions throughout the paper.

F. Acknowledgement

The acknowledgements (if necessary) of people, grants, funds, etc. should be brief.

G. References

Consult APA (latest edition)

3.1.3.2. Review Articles

It is expected that review articles would be written by individuals who have done substantial work on the subject. The following five types of reviews can be considered for publication in DMUJIDS.

A. *Current Perspectives*: These articles should provide insight into or comments on current directions of research on a topic, or they discuss potential new approaches to an area of investigation. It may include: abstracts (not more than 300 words), Keywords (3-5), up to 20 typewritten pages for the main body of the text, and minimum of 40 references.

B. *Critical Reviews*: These should cover a current topic of interest that has not been recently reviewed, emphasizing a critical discussion of noteworthy developments in the field; they should not be just a compendium of studies on the topic and should not be only autobiographical. Its components are: abstract (300 words), keywords 3-5, up to 40 typewritten pages for the main body of the text, and maximum of 110 references.

C. *Survey Reviews*: Should be a comprehensive survey of the research on a topic that has not been recently reviewed. It includes: abstract (300 words), keywords 3-5, up to 70 typewritten pages for the main body of the text, and maximum of 320 references.

D. Forum Mini reviews: One set of reviews is put together by an organizer(s) on a particular topic; each set is composed of a maximum of 6 mini review articles and a preface. It covers: abstract (200 words), keywords 3-5, up to 15 typewritten pages for the main body of the text, and a maximum of 30 references.

E. Recent Techniques (in any area): The purpose of this review is to introduce recently developed techniques worldwide. These articles should be written in sufficient scientific detail and format to explain the characteristics of the techniques. It contains: abstract (250 words), key words 3-5, up to 70 typewritten pages for the main body of the text, and a maximum of 300 references.

The journal expects contributors to give post-publication updates on the subject of review. The update should advance in the field after the publication of the article and should be sent as a letter to the editor.

3.1.3.3. Correspondence (Letter to the Editor)

These should be short and decisive observations. The journal will occasionally consider publishing letters to the editor from readers and authors in the "Correspondence" section. Letters should be comments and clarifications on articles that have recently been published in this journal and be in concise form. They should preferably be related to articles previously published in the journal or they should not be preliminary observations that need a later paper for validation. The letter could have up to 700 words, and it could be generally authored by not more than four authors.

3.1.3.4. Short communications

Short communications should present a complete study that is limited in scope than is found in full-length papers. The items of manuscript preparation listed above apply to short communications with the following differences: abstracts are limited to 100 words; main body of the text of these communication should be not more than 2,000 words that normally occupy four journal pages and without any subheadings; manuscripts should not contain more than two figures and/or tables; maximum of 15 references and 2-4 keywords or short phrases for indexing should be mentioned

3.1.3.5. Case reports

New, interesting and rare case can be reported. They should be unique, describing a great diagnostic or therapeutic challenge for the readers. Cases with clinical significance or implications will be given priority.

The manuscript could be up to 1000 words (excluding references and abstracts). These reports should have the following headings: abstract (150 words), key-words (3-5 words), introduction, case report, discussion and reference (maximum 12).

3.1.3.6. New perspectives

Newly detected diagnostic method, new drug or indication, any new finding or anything still under research which is going to be available can be discussed here. Word count should be a maximum of 800, eight references, two table/figures and four authors.

3.2 Research Ethics

Studies involving human subjects should be conducted according to the World Medical Association (WMA) Declaration of Helsinki-Ethical Principles for Medical Research Involving Human Subjects. Studies involving animals should follow appropriate ethical guidelines such as the Animal Welfare Act, The Animals Act (Scientific Procedure) order 1993, the EU parliament directive on the protection of animals used for scientific purposes, ARRPs policies and guidelines.

ATTITUDE OF LOCAL PEOPLE TOWARDS COLLECTIVE MANAGEMENT OF PROTECTED FOREST AREAS: THE CASE OF CHOKE MOUNTAINS, ETHIOPIA

Yealembirhan Molla¹, Fekadu Beyene¹ (Prof.), Adam Bekele² (PhD) and Belay Simane³ (PhD)

1. College of Agriculture and Environmental Sciences, Haramaya University, P. O. Box, 138. Dire Dawa, Ethiopia

2. Ethiopian Institute of Agricultural Research, P. O. Box, 2003. Adama, Ethiopia.

School of Environment and Development, Addis Ababa University P. O. Box, 1172. Addis Ababa, Ethiopia.

Abstract

The objectives of this study are to describe the Natural Resource Conservation and Tourism Development Cooperative (NRCTDC) members' attitude towards collective management of the protected forest areas (CMPFAs) and to ascertain the determinants of attitude. The survey was conducted from January to June, 2016. The study sites are three districts of Eastern Gojjam Zone, Amhara, Ethiopia. Two NRCTDCs were randomly selected from each district. The research employed six focus group discussions and a household survey of 367 respondents. The independent variables were predicted and measured via ordinal logistic regression model (ologit). They were patterned to multicollinearity, heteroskedasticity, Brant's parallel line regression assumption and other tests. Members' attitude towards CMPFAs accounts 229(62%), 21(6%) and 117(32%) negative, neutral and positive in that order. Lack of transparency, participation in decision makings, clear guideline, and unfair benefit sharing are the major reasons. The ologit estimated threshold parameters are -0.21838 and 0.15925. Gender, illiteracy, non-participation in trainings and living in Sinan and Bibugn districts contributed 25.3%, 23.2%, 27.5% and 55.4% and 56.9% on the odds of developing negative attitude. Thus, designing of participatory strategies to strengthen stakeholders' linkage, grind down the deeply embedded gender discrimination, enhance educational/training opportunities among others is wise to recommend for successful CMPFAs.

Key words: institution, ecosystem, collaboration, participation, transparency

1. BACKGROUND

Protected Area (PA) is defined as an area of land or sea dedicated to conservation and maintenance of biological diversity, natural and cultural resources managed through effective means (UNEP-WCMC, 2004). The establishment of the first PA in the world, Yellowstone, in 1872, was a response to uncontrolled degradation of biodiversity (Pretty and Smith, 2004). In 2005, the world reached a total of 144,296 PAs, covering an area of 19,381,000 km² (Chapeet *et al.*, 2008).

Local communities have an extensive level of appreciation for Pas (Heinen and Shrivastava, 2009 and Triguero-Mas *et al.*, 2010). Moreover, the study of White and Martin (2002) confirmed that reserved forests owned by local communities constitute 11% of the world's forests. The share had increased to 13% in 2008 (Sunderlin *et al.*, 2008). Thus confirming the failure of "state control" that Hardin (1968) suggested solving the problem of the commons (Ostrom, 1990 and Baland and Platteau, 1996). Thus, institutions for collective action are basic for the economic and environmental well-being (Jodha, 1986).

Literatures revealed cooperatives to be successful in managing communal property resources (CPR) in several countries (Dasgupta, 2001). But, the quality of collective action depends on the institutional set up, enforcement, and the attitude of participants. Hence, assessing the institutional settings and factors affecting collective natural resource management (NRM) is vital (Alemtsehay, 2010).

1.1 Introduction

An attitude is the evaluative dimension of a concept (Ajzen and Fishbein, 1977). Attitudes are strong correlates of actual behavior and thus can be used to predict people's behavior, their responses, acceptance, or reaction to development and conservation efforts (Shibia, 2010 and Tessema *et al.*, 2010). Borrini-Feyerabend *et al.* (2004) defined collaborative management as partnerships for NRM that involve local people as main stakeholders. Hence, a discussion on the conservation of natural resources requires a thought on major stakeholders' attitude as it demands a collective action.

The global increase in the area under community forests depicts the contribution of varied forms of participatory forest management (PFM) approaches (Agrawal, 2007). Hence, the establishment of PAs alone cannot safeguard perpetuation of biodiversity (Hayes, 2006 and Ban *et al.*, 2008). Rather, incorporating a more participatory approach into PAs is critical to foster the implementation of conservation strategies (Anthony, 2007 and Reed, 2008).

A study on conservation of tropical rainforests at 16 PAs in 11 African countries also showed that attitude of local people to be the strongest correlate of success (Struhsaker *et al.*, 2005). A vibrant understanding of the local people's attitude also helps in selecting and assessing conservation management options and to avoid potential conflicts (Hu, *et al.*, 2006). Yet, such relationships are often ignored in numerous conservation initiatives (Buch-Hanen, 1997 and Maikhuri *et al.*, 2001).

Ensuring the participation of local community in the management of forest resources is mentioned as a critical input to protect and improve Ethiopia's forest resources (EPA, 2003). As it upholds the acquisition of power by communities to make their own decisions on matters that affect their life and environment (EPA, 1997). Thus, Ethiopia introduced the PFM approach as a remedy to the failures of the top-down approaches (Keeley and Scoones, 2000). Then, it confirmed to promote sustainable forest management and improve the livelihoods of local people from the PFM approach (JICA, 2006 and PFMP, 2006).

Local communities are important forces in solving the environmental crisis (Praneetham *et al.*, 2012). The study of Triguero-Mas *et al.* (2010) strongly advocates the prominence of local people's support for sustainable management of forest resources. Though such a commitment emanates from the ocean of the attitude, it is wise to care that local community's perception and their priority might differ from that of externals (Matta and Alavalapati, 2006). Thus, the perception towards the NRM and their priority affects their attitude. Understanding the attitudes of local communities is essential for protected areas management (Ogunjimi *et al.*, 2012). Therefore, a comprehensive understanding of the local people's attitude is a management priority for the success of community-based forest management (Macura *et al.*, 2011).

Contemporary studies take up local people's attitudes as a major topic; mostly related to conservation projects or wildlife and nature reserve areas (Lee *et al.*, 2009). In community-based forest management context, participants' perception of the purpose and the implication of the arrangement towards their interest and thus the attitude they form influence the willingness and commitment (Husain and Bhattacharya, 2004; Gelcich *et al.*, 2005). But these studies tried to identify sources of conflicts, and propose solutions for future policy decisions. Conversely, the studies of Kideghesho *et al.* (2007), Lee *et al.* (2009) and Tomicevic *et al.* (2010) stressed on a deeper understanding of important attributes that determine people's attitudes. Yet, very few studies have looked into the underlying drivers of attitude for collective management of protected forest areas (PFAs). Specially, study on the determinants of attitude for collective forest management in the Choke Mountains is

completely inattentive. Hence, this study is devoted to describe the Natural Resource Conservation and Tourism Development Cooperative (NRCTDC) members' attitude towards collective management of the PFAs and to ascertain the determinants of such attitudes.

2 MATERIALS AND METHOD

2.1 Description of the Study Areas

The Choke Mountains are considered as one of the East African Afro-montane Biodiversity Hot Spot (Simane, 2011). The Biodiversity in this geographic region is highly threatened, the vegetation cover and the soil are degraded and the fertility is depleted because of long history of human settlement and the ever-mounting population pressure. There is also an abject poverty together with a continuous downward spiral alternative livelihoods opportunity.

The major part of Choke is found in *Bebugn, Senan, DebayTilatgin, Machakel* and *Hulet Ejju Enessie* in that order of broad area coverage. Its upper catchment is located between 10°33'06" to 10°50'24" North latitude and 37°42'36" to 37°58'24" East longitude. Topographically the watershed lies in the altitudes range of 2100 to 4413 (at the pick of *Talo*) m.a.s.l. It is a home of biodiversity and a source or 59 rivers and 355 springs (ORDA, 2011).

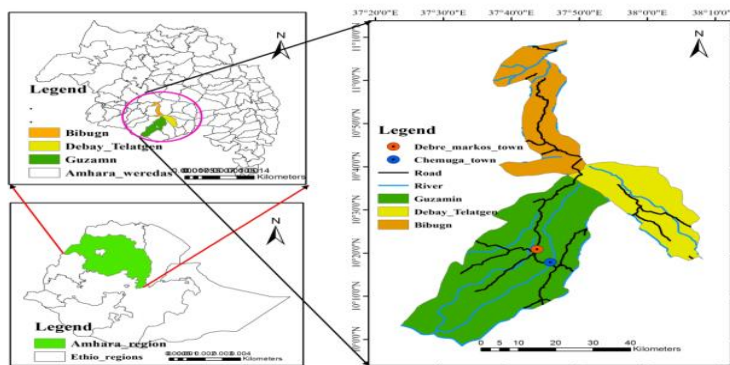


Figure 1. Map of the Study areas coordinate system WGS1984 UTM zone 37° N projection.

The Choke Mountains are part of the Nile 'Abay' River Basin, which provide the source of many tributaries to the Nile River. The major upper catchments (i.e., under study) that drain from the Choke Mountains are InatMuga, GilgelMuga, Temcha, Zimbl, TilkuAbeya, TinishuAbeya, Chemoga, Godeb, Tijan, Tefe, Teme, Azwari, Komed and Oromo Meshageriya, Aybab, Sede, Jigay and Gula. However, the Blue Nile basin, wetlands are given limited attention.

2.2 The Study Weredas

The study was conducted in three weredas of East Gojjam Zone of the Amhara Region, Ethiopia. The weredas are named DebayTilatgin (1), Sinan (2), and Bibugn (3). These weredas are purposively selected for their higher area coverage of the Choke Mountains. Besides, these weredas were getting much courtesy of several stakeholders; Ethiopia Environmental Protection Authority (EPA), United Nations Development Project (UNDP), Organization for Rehabilitation and Development of Amhara (ORDA) and others for years. Of these, the UNDP had established eight, eight, and five NRCTDCs having a total of 4441;1570, 1402 and 1469 beneficiaries in wereda 1,2 and 3 respectively in 2009. Every NRCTDC was carefully selected a degraded watershed area extending from the Choke Mountains to manage and promote it into a future tourism sites (ORDA, 2011).

2.3 Sampling and Sample Size

The field work was conducted from January to June 2016. The target populations were the NRCTDCs in *weredas* 1, 2 and 3. The study used Yamane's (Yamane, 1967) formula to determine the total sample size to be 367.

$$n = \frac{N}{1 + N(e)^2} \text{----- (1)}$$

Where, n is the sample size, N is the population size, and 'e' is the level of precision (95%).

Two NRCTDCs were randomly selected from each *wereda* as a sampling frame via a lottery system. Thus, Yegomira and Weyifen Adkim, Chemoga and Temicha, and Gedeb Giorgisand Meleya were picked from *wereda* 1, 2 and 3 in that order.

The sample size from each cooperative was determined using a proportional to size simple random sampling technique. Finally, the responding households were nominated through a systematic random sampling technique from the respective NRCTDCs members' list (Table 2).

2.4 Data Collection Methods

The study consumed both qualitative and quantitative data. The data collection process includes focus group discussions and household surveys using a checklist and an interview schedule respectively. Focus group discussions (FGDs) with 20 participants; four from administrators, "strong" farmers, "medium" farmers, women house heads and landless youth were conducted in sampled cooperatives. However, there are also two mini FGDs conducted separately with youth and women members in each FGD.

The interview schedule used both open and close-ended questions. It was pretested, revised and translated to the local language, *Amharic*. Preliminary survey, 40 *Weyifen Adkim* NRCTDC members, was used to check the clarity and reliability of items. They replied to the 12 items according to their strength of agreement using five level scores (Bass *et al.*, 1974). But they were not included in the main sample group (Table 3).

Factor analysis (Principle Component Analysis) was used to reduce the Likert scale responses into manageable factors that were then subjected to Cronbach Alpha so as to determine the reliability of the item responses in measuring attitudes and determining motives towards CMPFAs. A Cronbach's Alpha value of at least 0.7 is considered reliable (de Vaus, 1996). The analysis approved six items to be reliable. Chi-square test was used to determine factors that influence the respondents' attitudes.

The Cronbach's Alpha test for reliability for the responses of pre-test sample was 0.786, thus showing inclination towards agreement with the scale statements.

Table1. Reliability Statistics (n=40)

Cronbach's Alpha	Cronbach's Alpha based on standard items	Number of items
0.786	0.771	6

Source: own Pre-test data 2018

Table 2. Sampling procedure, sampled cooperatives and selected respondents

Weredas	Selected Kebeles	Cooperative Members' Description			
		Men	Women	Total Population	Sampled units
DebayTilatgin	Yegomira	98	20	118	26
	WeyifenAdkim (-40)	130	34	164	28
	Total	188	54	242	54
Sinan	Chemoga	202	83	285	63
	Temicha	180	150	330	73
	Total	382	233	615	136
Bibugn	GedebGiorgis	332	99	431	96
	Meleya	179	186	365	81
	Total	511	285	796	177
Study sites total		1079	574	1653	367

Table 3. Items-total statistics (n=40)

	Mean, if item deleted	Variance , if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's Alpha if item deleted
Members have clear management idea	17.15	6.131	.636	.448	.731
Members share benefits equally	17.03	7.922	.557	.483	.751
Management practices are smart	17.08	6.738	.596	.407	.739
The forest shows greater improvement	19.25	9.885	.086	.107	.825
The leaders are transparent enough	17.33	7.097	.793	.725	.699
Members' participation in decision making	17.05	7.126	.570	.609	.745

2.5 Data Analysis Techniques

Dependent variable

The NRCTDC members' attitude towards the collective management of the PFA is set in to three ordinal constructs. Hence, it is represented by '1', '2' and '3' for negative, undecided and positive attitudes respectively. A composite score based on the mean value of the different items was used to measure the constructed (Conner and Armitage, 1998). Models for ordered responses have their origin in the statistical literature.

Though Aitchison and Silvey (1957) proposed the ordered probit model, Snell (1964) suggested the logistic for mathematical simplicity to analyze orderly ranked classes. Thus, the analysis was made using STATA V.13 and SPSS V.22 statistical software.

The first comprehensive treatment of ordered response models appeared with the work of McKelvey and Zavoina (1975) who generalized the model of Aitchison and Silvey to more than one independent variable. The idea assumed the existence of an underlying continuous latent variable related to a single index of explanatory variables and an error term and to obtain the observed categorical outcome. General surveys of the parametric as well as the semi and non-parametric literature were given, for example, in Bellemare *et al.* (2002) and Stewart (2004), the two latter references in particular for the semi- and non-parametric treatments of ordered data. Thus, the gologit (generalized ordered logit) model can be written as:

$$P(Y_i > j) = \frac{\exp(\alpha_j + X_i\beta_j)}{1 + [\exp(\alpha_j + X_i\beta_j)]}, j = 1, 2, \dots, M - 1$$

The unconstrained model gives results that are similar to running a series of logistic regressions, where first it is category 1 versus all others, then categories 1 & 2 versus all others, etc. The unconstrained model estimates as many parameters as mlogit does, and tends to yield very similar fits. Hence, an ordered logit (ologit) model is a special case of the gologit model, where the betas are the same for each j.

$P(Y_i > j) = \frac{\exp(\alpha_j + X_i\beta)}{1 + [\exp(\alpha_j + X_i\beta)]}$, $j = 1, 2, \dots, M-2$ Thus, it is explained as follow;

$$\begin{aligned} \text{This implies that: } P(Y_i = 1) &= 1 - \frac{\exp(X_i\beta - \kappa_i)}{1 + [\exp(X_i\beta - \kappa_i)]} ; - \frac{\exp(X_i\beta - \kappa_i)}{1 + [\exp(X_i\beta - \kappa_i)]} j = 2, \dots, M-1 \\ P(Y_i = M) &= \frac{\exp(X_i\beta - \kappa_{M-1})}{1 + [\exp(X_i\beta - \kappa_{M-1})]} \end{aligned}$$

Independent variables

The study assumed the following explanatory variables to influence the dependent variable, attitude. These are age, literacy level, sex of the house head, district, market and PFA distance, income from livestock, participation in tree selling, access to focused trainings and social role.

2.6 Potential Bias and Limitation

The costs incurred and benefits created by PFAs strongly influence the peoples' attitude (Heinen and Shrivastava, 2009 and Shibia, 2010). However, in this particular study they were not considered in our model as these data were neither collected nor available from other sources.

3 RESULTS AND DISCUSSION

3.1 Members' Attitude on CMPFAs

Respondents were encouraged to reveal and rate their subjective judgement to every item. The attitude was computed through summing up their responses to every item using SPSS version 22 software. The majority of the respondents, 184 (50%) showed their agreement while, 116 (31.6%) remain undecided and only 67 (18.4%) expressed their disagreement helping to comprehend the improvement observed on the protected forest. But they explained their involvement in the PFAM to only be for the fear of penalties bestowed for their non-attendance. This contributed for the progress on the protected forest (PF) though it cannot rectify the latent cracks. But, the lack of transparency among leaders and lack of participation on decision makings counting 216 (58.8%) and 205 (55.9%) compel farmers to develop negative attitude towards collective management of the protected forest. Likewise, the study by Silori (2007), reported the lack of local community's involvement in the decision making processes to critically affect the development of a negative attitude toward PAs.

The majority of respondents 262 (71.4%) tend to disagree with the item "Benefits are equally shared among members." First, all of the PFAs did not start providing benefits, except the grass. Generally, people tend to appreciate protected areas if the benefits gained from them offset the associated costs (Ormsby and Kaplin, 2005). However, respondents reveal trainings and the cooperatives' finance to foully be corrupted by leaders. Besides, most leaders are *kebele* administrators and this makes fighting corruption so complex. These bolted members' not to vibrantly appeal their shares. Likewise, the results of Agrawal (2001) and Berkes (2008) reported the tendency of local elite to gain all benefits when new managing groups are formed and the structure of society is reflected in the functioning of those groups.

Moreover, majority of the respondents, 232 (63.2%) with 169 (46.0%) mild and 63 (17.2%) strong disagreement arbitrated the management practices not to be smart enough to ratify the PFAs into a tourism site. This further urges them not to presume the benefits of their effort in the short run and consequently to develop a negative attitude towards CMPFAs. Similarly, the studies of Ormsby and

Kaplin (2005) and Allendorf (2007) reported people's perception on the management practices to affect their attitude towards the PFAs. A negative attitude entails high transaction costs in conservation and development endeavours (Baral & Heinen, 2007 and Ray & Bhattacharya, 2013).

The aforementioned points and related circumstances afterward urge the cooperative members not to have clear idea on how best to manage the PFA computing 267 (72.7%). It in turn influences their focus on the future fate of the protected forest areas. The most probable elucidation seems to be the lesser involvement of cooperative members during the conception, planning, monitoring and evaluation of the cooperative.

3.1.1 Socio-economic characteristics

Farmers of the study areas own an average farm lands size of 0.77 hectare. Whereas, 105 (28.6%), 22 (6%) and 30 (8.2%) respondents are having 0.5, 0.25, and 0 hectare of farm land. Nevertheless, those 29 landless members used to manage others' land through renting or sharing modalities. However, the average family size of the respondents is 5.68 (Table 5).

Table 4. Members' attitude by districts

Districts	Negative	Unclear	Positive
Debay T.	(16.7%) 9	(3.7%) 2	(79.6%) 43
Sinan	(70.6%) 96	(6.6%) 9	(22.8%) 31
Bibugn	(70.0%) 124	(5.7%) 10	(24.3%) 43
Total	(62%) 229	(6%) 21	(32%) 117
Statistics	Value	df	Sig. (2-S)
Pearson χ^2	67.139a	4	.000
Likelihood	63.806	4	.000
Linear Association	37.113	1	.000
Cramer's Variance	0.302	---	.000

Source: own survey 2018

Table 5. Distribution of respondents based on their attitude scale (n=367)

Attitudinal statements (items)	Levels of agreement										Statistics		
	SAG*		AG		UND		DAG		SDAG				
	#	%	#	%	#	%	#	%	#	%	1*	2	3
We share benefits equally	20	5.4	38	10.4	47	12.8	177	48.2	85	23.2	3.7	4	1.2
Decision making participation	40	10.9	85	23.2	30	8.2	127	34.6	85	23.2	3.4	4	1.8
We are using smart practices	4	1.1	20	5.4	104	28.3	173	47.1	66	18.0	3.8	4	0.7
We have clear PFM idea	67	18.3	100	27.2	35	9.5	125	34.1	40	10.9	2.9	4	1.8
We saw progress on the PFA	51	13.9	133	36.2	115	31.3	63	17.2	5	1.4	2.6	2	0.9
The leaders are transparent	26	7.1	57	15.5	64	17.4	125	34.1	95	25.9	3.6	4	1.5

* 1, 2 and 3 represents the mean, mode and variance of the specific items respectively.

* SAG= strongly agree; AG= agree, UND = undecided; DAG = disagree and SDAG= strongly disagree

Source: own survey 2018

This made most farm households incapable to safeguard the annual family food demand. Moreover, each *wereda* clenches more than 5000 landless youths. This further tenses the demand to have and expand farm lands by those landless and with higher family size households respectively. This in turn places maximum pressure on the PFAs.

Knowledge towards rules and regulations of the NRCTDCs'

Forest rules are not limited to formal, official rules and may include norms, rules, and traditions defined by local forest users (CIPEC, 2002). It is recognized and understood by the majority of forest users. In the case of protected forest area, a forest may be legally designated as protected, but its respective codes of conduct will not be considered as rules unless they are recognized by cooperative members.

Table 6. The family, own and total farm size

Statistics	Family	Own farm	Total farm
Mean	5.68	0.77	0.98
Median	6.00	0.75	0.75
Mode	5.00	0.50	0.50
St. dev.	1.91	0.45	0.55
Variance	3.65	0.20	0.30
Skewedness	0.18	0.72	1.02

Source: own survey 2018

This result strengthened by the study of Heinen and Shrivastava (2009) that confirmed the members' higher level of awareness on the rules and regulations to have a negative influence on their attitude towards the CMPFA. This tendency, most probably, might emanate from their knowledge on the gaps in the rules and regulation to attain their future goal together with the lack of transparency of the cooperative leaders to consider and accommodate members' feelings in an open manner.

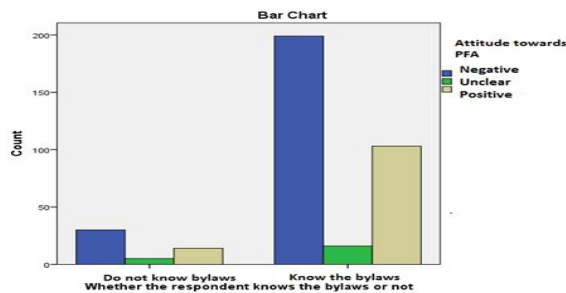


Figure 2. Relationship of attitude with knowledge of rules and regulation.

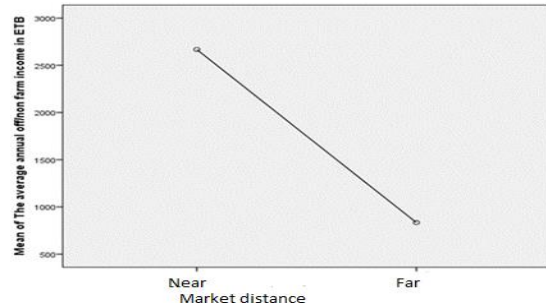


Figure 3. Market distance Vs off/non-farm income.

The relationship between market distance and respondents' off/non-farm income showed a positive relationship. This is a potential area for stakeholders to target towards providing trainings of income generating activities for those who are living nearer to the market places.

This has a dual contribution. First, participating in off/non-farm activities increases the households' income that helped to reduce their dependence on primary activities. Second, such higher income improves their access to agricultural technologies that increase land and labour productivity than looking for additional farm land that is still competing with the forest lands. Furthermore, the ordered logistic regression result vividly showed those household heads trained with income generating schemes has higher tendency to develop a positive attitude than those not trained towards the CMPFAs.

In a nut shell, the cooperative members are managing the PFAs under such a cuddled status quo with the expectation of fetching future benefits. But, they are not getting any benefit though the management has aged six solid years. Among practical reasons; the selection of tree species that need longer time to attain benefits (*Hagenia abyssinica* "Koso", *Olea africana* "Weyira" and *Juniperus procera* "Tsid") is the one. Moreover, lack of clear guideline on how to manage and distribute benefits from the PFA is putting a gloomy shade on members' attitude. For instance, the most successful Yegomira NRCTDC did not distribute the five years aged grass (fig. 4).



Figure 4. Yegomira Kebele PFA (Debay Tilatgin).

Moreover, farmers are griet from a strong rivalry feeling with the newly established active farmers' organization, for similar purpose, by the Sustainable Land Management (SLM) project. Again, the fall of technical support and incentives (e.g. farm implements) from stakeholders are wilting members' morale not to assertively take part in the collective management of the PFA.

3.2 Determinants of Attitude towards CMPFA

All of the attitudinal items have significant relationship to the respondents' general attitude. This shows the items' validity to measure the attitude. Beside, the variability in the level of significance and correlation to each other again richly show how they are addressing varying aspects of the attitude towards collective management of PFAs (Table 7 and 8).

Table 7. Within items' correlation

Attitude items	CLER MGT	BNT SHR	SMR PRC	FRT PRG	TRS PAR	PR DC
CLERMGMGT	1					
BENESHR Corr.	.140					
Sig. (2-tailed)	.007	1				
SMRTPRAC	-.004	.133				
	.933	.011	1			
FORSTPRG	-.012	.028	-.01			
	.826	.596	.892	1		
TRNSPARC	.010	.312	-.15	.172		
	.854	.000	.003	.001	1	
PARTDECS	-.008	-.11	-.06	-.09	.168	
	.874	.036	.274	.071	.001	1

Source: own survey 2018

Table 8. Items' correlation and regression

GATTITUDE	Correlation		Regression	
	Coef.	P	Coef.	P>t
CLERMGMGT	-0.6190	0.000	-.1719	0.000
BENESHR	-0.6033	0.000	-.0973	0.002
SMRTPRAC	-0.2700	0.000	-.1269	0.000
FORSTPRG	-0.4412	0.000	-.1069	0.000
TRNSPARC	-0.7704	0.000	-.3049	0.000
PARTDECS	-0.5771	0.000	-.1427	0.000
_cons			4.8755	0.000

N= 367, F (6,360)=168.12, Prob> F= 0.000,
R² = 0.7370, Adj R² = 0.7326, Root MSE = 0.4773
Source: own survey 2018

The independent variables were predicted and measured using an ordinal logistic regression model. These variables were of personal, socio-economic, institutional and PFA related variables. They were patterned for their association to the other independent variables towards multicollinearity, endogeneity, and heteroskedasticity conditions. As table 12 depict they show no relations to one another except for the district 2 and district 3 that are beneficial for further *wereda* level analysis. The household's annual average income from the sale of livestock has a negative but significant relation with the corresponding attitude. This, most probably seems to emanate from the respondents' higher demand for free access to grazing areas for their livestock than managing the PFA from which they are getting no benefit at all. Hence they might consider the PFAs responsible for their lost income advantage from livestock selling.

Parallel line regression Assumption

This assumption is run to check the fitness of the model to conduct the attitude test. Hence, as the Brant test is found to be non-significant to satisfy the parallel line assumption it implies that the ordered logit test is fit to make the attitude test (table 10).

Table 9. Relationship and significance level

	Statistics	Age	Livestock Income
Attitude	Correlation	-.039	-.228
de	sig.(2-tailed)	.456	.000
	Df	365	365

Source: own survey 2018

Table 10. Parallel regression assumption test

Tests	Chi ²	Df	P>Chi2
Wolfe Gould	5.312	11	0.915
Brant	5.367	11	0.912
Score	14.36	11	0.213
Likelihood ratio	17.09	11	0.105
Wald	14.29	11	0.217

Source: own survey 2018

The model chi-square result is 144.87 with an 11 degree of freedom. This is significant to ascertain the considered variables are having strong influence on members' attitude towards CMPFAs. The threshold parameters of -0.21838 and 0.15925 are explained with three possible values for Y (i.e. M = 3), the values for Y are;

$$Y_i = 1 \text{ if } Y^*_i \leq -.21838$$

$$Y_i = 2 \text{ if } -.21838 \leq Y^*_i \leq .15925$$

$$Y_i = 3 \text{ if } Y^*_i \geq .15925$$

Usually, we look at the sign and level of significance for coefficients in interpretation. This helps to plug in hypothetical or real data values to get a better sense of meaning.

Table 11. Regression coefficients of variables

GATTITUDE	Coef.	Std. Err.	t	(P>t)
AGERES	-0.0042	0.0063	-0.67	0.502
SEXHH	0.3041	0.1040	2.92	0.004
EDUCATION	0.3253	0.0904	3.60	0.000
INCMLIVS	-0.0001	0.0001	-0.70	0.487
MRKTNEW	0.0710	0.0856	0.83	0.407
FORSTDIS	-0.1360	0.0808	-1.68	0.093
PARTRESEL	0.0795	0.0902	0.88	0.379
INCTRAIN	0.4016	0.0863	4.65	0.000
DISTRCTN2	-1.1430	0.1470	-7.78	0.000
DISTRCTN3	-1.0431	0.1391	-7.50	0.000
SOCLROLE2	0.2580	0.1103	2.34	0.020
_cons	2.1491	0.2802	7.67	0.000

N= 367, F(11, 355) = 16.6, Prob. > F = 0.0000,
 $R^2 = 0.3393$, Adj. $R^2 = 0.3189$, Root MSE = .76178
Source: own survey 2018

Gender

Being a woman has contributed a 25.3% increase in the odds of developing a negative attitude whereas being male has contributed 20.8% increase in the odds of developing a positive attitude towards CMPFAs, assuming other variables to remain constant. Among the most probable reasons urging most women to develop a negative attitude towards the CMPFAs; lower farm land size (Only 5 (6.1%) of women have a farm land holding size between 0.75 and 1.5 hectare), lower household labour, fewer access to additional income generating trainings, only 17(20.7%) women, lower rate of participation in the progress report of their NRCTDCs'(only 25(30.5%) women, lower frequency of extension visit, no woman as compared to 114 (40.0%) men gets most frequent extension agents' visit. Women,13 (15.9%) compared to 109(38.2%) men, have lower involvement in other social roles that helps to widen their access to several training and income earning opportunities considered to be crucial (Appendices 1 and 2).

All these evidences vividly demonstrate us how women are systematically marginalized. Such a marginalization fires back the society and exacerbates the existing natural resource degradation. The result of this study goes in line with the findings of Guijt & Shah, (1998) that explained women to be excluded in a community due to gender, economic, social, cultural and political characteristics that give some groups more power and more claim over resources.

Moreover, Agarwal (2010b) reported that "marginalizing women negatively impinges women's attitudes towards conservation and development." Women, therefore, will directly or indirectly be forced to look for means of increasing their income and consequently be engaged in off/non-farm activities 52 (63.4%) to fill their household deficits. On the other hand, the CMPFAs demand their time. Thus, these interrelated factors compel them to develop a negative attitude towards CMPFAs.

Literacy level

Being illiterate contributed 23.2 % increase in the odds of developing a negative attitude towards while being literate shows a significant, 19.4% increase in the odds of developing a positive attitude towards CMPFAs. Being literate is gives opportunities to involve members in additional social role, 110 (90.2%) literates do involve in additional social roles as compared to 12 (9.8%) illiterate respondents. Similar number of, 137(93.8%) and 9(6.2%) literates and illiterates respectively had participated in the management of protected forest trainings as well as financial progress report meetings. Moreover,109(75.7%) and 35(24.3%) literates and illiterates respectively participated in additional income fetching trainings(Appendix 3).

The findings indicate that attitudes of the population sample with relatively higher levels of education shows greater influence by parameters. This concurs with findings of a study by Bandara and Tisdell (2002) strongly advocates education to plays a critical role in shaping the attitudes and perceptions of local communities towards natural resource conservation (Romanachet *al.*, 2007). Though such studies advocated that educating women to contribute much on the tendency to develop positive attitude towards natural resource conservation and development, the result of this study depicts that in an environment where being literate does not help much to get access to employment opportunity.

Other factors that determine their access to economic resources and capacity building trainings play critical roles in marginalizing women than the level of literacy they hold. This further strengthens the result of Infield (1988) that showed how economic factors positively influence attitude.

Distance of PFAs

Residing a beat far from the PFAs has contributed 11.2% on the odds of developing negative attitude whereas residing near has contributed 9.6% on the odds of developing a positive attitude towards CMPFAs though it is at 5% significant level. This may be due to that managing the PFA is taking their time than those residing nearer. Plus it might be due to the lack of sense of ownership. This is against the results of J. P. Lepetu, and H. Garekae (2015) and Shibia (2010) which declared that “the attitudes of local people living adjacent to forest reserves reflect suspicion and mistrust on forest management policies” and “local communities living adjacent to protected reserves have negative attitudes than those who are far away.”

Income generating trainings

Respondents' access to participate in trainings that help them to fetch additional income has contributed 24.2% on the odds of developing a positive attitude whereas not having access to such training has contributed a 27.5% on the odds of developing a negative attitude towards CMPFAs. This goes in line with the study of Sifuna (2010) that make clear on the contribution of the benefits that local people obtain from protected areas in different forms to create a positive attitude towards CMPFAs. Also, as the NRCTDCs were established to give future economic and non-economic opportunities, trainings might widen their view and enhance their understanding towards the benefits.

District (*wereda*)

Being members of the NRCTDCs of *Sinan* and *Bibugn* had contributed 55.4% and 56.9% on the odds of developing a negative attitude towards CMPFAs respectively. Lower success rate of the PFAs in *Sinan* and *Bibugn* and the existing weak linkage among actors of the PFA system are the reasons. The studies of Hunter and Gibbs (2006) and Lindsey *et al.* (2005) assured the place of residence and the type of land use practices to influence people's attitudes in that order. Several authors also confirmed that attitude toward community managed forests to vary within districts for the reasons of different management objectives and history, levels of access to resources, and costs or benefits created (Allendorf, 2007; Heinen and Shrivastava, 2009).

Social role

The mere participation of cooperative members in *kebele* administrations has contributed 14.2% on the odds of developing a positive attitude towards the CMPFAs. It also confirmed that not participating in the *kebele* administration to contribute 16.0% in the odds of developing a negative attitude, though at 5% significance level, towards the CMPFAs. As such participation widens their opportunity towards several trainings and income opportunities that would help to broaden their view point on the natural resource management and to support their annual income for satisfying their household demands. Therefore, these helped them to have the knowledge and the time for the management of PFAs.

Table 12. Chi-square estimates of the categorical variables

Variable and attributes		Attitude towards the PFAs			Pearson Chi-Square			Linear-by-Linear Association		
		Negative	Unclear	Positive						
		No. (%)	No. (%)	No. (%)	Val.	df	Sig(2-s)	Val.	df	Sig(2-s)
Education	Illiterate	94 (76.4)	5 (4.1)	24 (19.5)	15.6	2	.000	15.1	1	.000
	Literate	135 (55.3)	16 (6.6)	93 (38.1)						
Gender	Woman	69 (84.2)	2 (2.4)	11 (13.4)	21.3	2	.000	20.0	1	.000
	Man	160 (56)	19 (7)	106 (37)						
Market distance	Near	145 (63.3)	14 (6.1)	70 (30.6)	.575	2	.750	.357	1	.550
	A beat far	84 (60.9)	7 (5.1)	47 (34.0)						
PFA distance	< 30 min	98 (55.1)	12 (6.7)	68 (38.2)	7.95	2	.019	7.57	1	.006
	30 <X< 60	131 (69.3)	9 (4.8)	49 (25.9)						
Income training	Not trained	162 (72.6)	10 (4.5)	51 (22.9)	25.5	2	.000	24.7	1	.000
	Trained	67 (46.5)	11 (7.6)	66 (45.9)						
Tree selling	Not Part.	150 (68.2)	10 (4.5)	60 (27.3)	7.93	2	.019	6.96	1	.008
	Participate	79 (53.7)	11 (7.5)	57 (38.8)						

Source: survey data 2018

Table13. Parameter estimates of the ordinal logit model for the independent variables

GATTITUDE	Coef.	Std. Error	Z/ (P>Z)	dy/dx Coef.1	Z (P>Z)	dy/dx Coef. 2	Z (P>Z)	dy/dx Coef. 3	Z (P>Z)
AGERES	-.01427	.02013	-0.71 0.478	.00315	0.71 0.478	-.0005	-0.70 0.485	-.0027	-0.71 0.478
SEXHH	1.3562	.40774	3.33 0.001	-.2530	-4.25 0.000	.04512	2.85 0.004	.20787	4.33 0.000***
EDUCATION	1.1416	.33053	3.45 0.001	-.2316	-3.89 0.000	.03738	2.78 0.005	.19421	3.91 0.000***
INCMLIVS	-.0001	.00009	-0.84 0.403	.00002	0.84 0.402	-2.66e-0	-0.82 0.413	-.0000	-0.84 0.402
MRKTNEW	.21236	.27832	0.76 0.446	-.0469	-0.76 0.446	.00689	0.75 0.453	.03997	0.76 0.446
FORSTDIS	-.5067	.25763	-1.97 0.049	.11177	1.98 0.047	-.0161	-1.80 0.072	-.0956	-1.98 0.048**
PARTRESEL	.17008	.27495	0.62 0.536	-.0376	-0.62 0.536	.00552	0.61 0.541	.03203	0.62 0.536
INCTRAIN	1.2228	.27227	4.49 0.000	-.2748	-4.62 0.000	.03291	3.18 0.001	.24189	4.45 0.000***
DISTRCTN2	-3.1932	.51002	-6.26 0.000	.55397	8.26 0.000	-.0737	-4.35 0.000	-.4803	-7.36 0.000***
DISTRCTN3	-2.9140	.48398	-6.02 0.000	.56879	7.49 0.000	-.0598	-4.06 0.000	-.5091	-6.70 0.000***
SOCLROLE2	.68742	.31583	2.18 0.030	-.1604	-2.11 0.035	.01827	2.29 0.022	.14214	2.03 0.042**
cut1	-.2184	.89837							
cut2	.15925	.89858							

(Ancillary parameters)

- "***" and "****" indicates the level of significance at 5% and 1% respectively
- N = 367, LR chi2(11) = 144.87, Prob. > chi2 = 0.0000, Pseudo R2 = 0.2400, Log likelihood = -229.4028 and Latent SD (Neg) = 0.67087487, Observed SD (Neut) = 0.07746408 Observed SD (Posit) = .25166106

Source: survey data 2018

4. CONCLUSION AND RECOMMENDATION

4.1 Conclusion

Currently, protected areas are getting ceiling attention as it helps to conserve the world ecosystem. Research results assured the management of the PAs by the Local community to show greater success. The Choke Mountains are the home for biodiversity and a water tower for the surrounding zones. It contributed for 54 big and full season rivers for the Blue Nile (*Abay*) river magnifying its contribution to the renaissance hydro electric dam. And even it is playing a critical role for the Sudan and Egypt economy, making it a regional resource.

The study was conducted in Debay Tilatgin, Sinan and Bibugn *weredas* of the Eastern Gojjam zone of the Amhara Regional State, Ethiopia. Respondents of the study areas hold an average farm land size of 0.77 hectare with a mode of 0.50 hectare. However, the average family size is 5.68 persons with a mode of 5.0 persons per household. Thus, it is hard to get production for the household annual consumption without a supplementary income. Selling fire wood and livestock fattening are the common supplementary income sources. But they put elevated pressure on the natural resource base. Literacy level has a direct tie with involvement in income generating trainings and extra social role. Besides, it has a positive link with participation in off/non-farm activities. These create several capacity building and income earning occasions to amend the household deficit and reduce dependence on the natural resource base.

The NRCTDCs members' involvement since the conception of the idea was so low. This idea was first emanated from the UNDP small grant project that for long supported the Ethiopian Environmental Protection Authority. The contribution of UNDP from inception to enabling the cooperatives legal entities was critical. Members boldly revile their passive participation in the processes of designing the rules and regulations and nominating the leaders of their cooperatives. Moreover, lesser participation in the decision making processes, lack of clear guideline on how best to manage the PFA and lack of transparency among leaders about the financial and other resources management erode members' confidence on the future of their cooperatives. All these influenced most members to develop negative attitude towards the CMPFAs.

The study further acknowledged the determinants of members' attitude towards CMPFAs. Thus gender, literacy level, participation in trainings and progress reports, involvement in additional social roles are the critical ones. For instance, gender discrimination marginalizes them from resource ownership, like farm land ownership. It again directly and indirectly influences their education (e.g. early marriage), household income, livestock ownership, household labor and other related critical assets. These further add several back breaking tasks on them to satisfy the household demands. Thus it impinges them not to have time and other resource to participate in trainings, meetings and NRCTDC. Even though they do involve in such a cooperative, it is unlikely to actively participate in capacity building trainings and discussions.

In a nut's shell, most cooperative members did develop a negative attitude towards CMPFAs due to inter-related factors. Therefore, a proper understanding of stakeholder attitudes and the factors influencing it is imperative for cost-effective, successful and sustainable conservation and development endeavours. Especially it is an inevitable in a situation where members as well as stakeholders are required to wait long to rape their fair shares.

4.2 Recommendation

The NRCTDCs members operate and display tangible progress under frustrating and desperate situation. In order to reduce their obstruction on the PFA and their cooperatives' fate, it might be prudent to design complementary and efficient strategies. The designed strategies have to reduce the communities' dependence on the protected forest areas and the biodiversity. For these, expanding educational (formal, informal and non-formal) services must be a priority focus. In order to improve the literacy level of the local people, the cooperative members, it is highly recommended to establish a strong linkage among stakeholders of the CMPFAs. This will improve people's access to informal and non-formal trainings to get theoretical knowledge and practical skills. Applying the knowledge and practice will help them see a progress on their PFAs, upholding their tendency of developing a positive attitude towards CMPFAs. This further motivate and urge them see their ultimate goal, developing their PFA into a tourism site. However, the formal education, more specifically the elementary and junior, curriculum lacks a natural resource management component. Therefore, as a policy implication it is highly recommended to inculcate this issue to create a massive awareness on the public and improve the forest and biodiversity coverage of the nation at large, especially, in the areas of integrated watershed management.

It is wise to strengthen the linkage among actors of the PFA system to improve participation and transparency. Thus, they can share their specific roles and responsibilities that would enhance a continuous follow up and encourage actors' and members' participation. More specifically, the respective *weredas*' cooperative promotion offices need to at least consume one of the monthly meetings of the cooperative members to disclose the financial progress report. This paves a way to minimize members' suspicion towards the corruption of the cooperative resources. Such a transparent system for sure helps members to develop a positive attitude towards the CMPFAs.

Deep rooted and culture embedded gender issues need time to create awareness among the mass and to engage towards gender mainstreaming and further activities. Hence, it is very wise to design area specific legal frameworks that is capable of solving the existing challenges and that facilitate the realization of gender equity and finally gender equality. But, care must be taken for them not to contradict with the national gender legal framework. In the mean time providing trainings on gender issues and mainstreaming gender in such a NRCTD cooperative must be a priority to encourage full participation of women in CMPFAs.

5 REFERENCES

- Agarwal B. 2001. Participatory exclusions, community forestry, and gender: an analysis for South Asia and a conceptual framework. *World Development* 29:1623-1648.
- Agarwal B. 2010b. Gender and green governance: the political economy of women's presence within and beyond community forestry. Oxford University Press, UK.
- Agrawal B. 2007. "Forests, governance, and sustainability: common property theory and its contributions." *International Journal of the Commons* 1: 111-136.
- Aitchison, J., and S. D. Silvey. 1957. The generalization of probit analysis to the case of multiple responses. *Biometrika* 44:131-40.
- Ajzen I, Fishbein M. 1977. Attitude-behaviour relations: Theoretical-analysis and review of empirical research. *Psychol Bull* 84:888-918
- Alemtsehay Jima, 2010. Determinating factors for a successful establishment of participatory forest management: A comparative study of Goba and Dello Districts, Ethiopia; MA thesis the University of Agder, Kristiansand, Norway.
- Allendorf, T. D. 2007. Residents' attitudes toward three protected areas in South-western Nepal. *Biological Conservation* 16:2087-2102.
- Anthony, B. 2007. The dual nature of parks: attitudes of neighbouring communities towards Kruger National Park, South Africa. *Environmental Conservation* 34:236-245.
- Baland, J. M., and J.P. Platteau. 1996. Halting degradation of natural resources: is there a role for rural communities? *Food & Agriculture Org.*
- Ban, N., C. Picard, and A. Vincent. 2008. Moving toward spatial solutions in marine conservation with indigenous communities. *Ecology and Society* 13(1): 32.
- Bandara, R., Tisdell, C. 2002c. Rural and Urban Attitudes to the Conservation of Asian Elephants in Sri Lanka: Empirical Evidence. *Economics, Ecology and the Environment*, Working paper No. 66, School of Economics, The University of Queensland, QLD 4072, Australia.
- Baral N. & Heinen J. 2007. Resources uses, conservation attitudes, management intervention and park-people relations in the western Terai Landscape, Nepal. *Environmental Conservation*, 34, 64-72.
- Bass, B. M., Cascio, W, F., and O'Conner, E.J. 1974. Magnitude Estimation of Expressions of Frequency and Amount. *Journal of Psychology*, 59, 313-320.
- Bellemare, J., Motzkin, G. & Foster, D.R. 2002 Legacies of the agricultural past in the forested present: an assessment of historical land-use effects on rich mesic forests. *Journal of Biogeography*, 29, 1401-1420.
- Berkes, F. 2008. Evolution of co-management: role of knowledge generation, bridging organizations and social learning. *Environmental Management* 90:1692-1702.
- Borrini-Feyerabend GM, Pimbert M, Farvar MT, Kothari A, Renard Y. 2004. Sharing power: learning by doing in co-management of natural resources throughout the world. IIED and IUCN/CEESP/CMWG, Cenesta, Tehran.
- Buch-Hansen N. 1997. Environment-a liability and an asset for economic development: some views on environmental protection with the economic development in Bhutan. *International Journal of Sustainable Development and World Ecology*, 4, 17-27.

- Chape S. Spalding M. Taylor A. Putney N. Ishwaran J. Thorsell D. Blasco J. Robertson P. Bridgewater J. Harrison and E. McManus. 2008. History, definitions, value and global perspective. Pp 1–35 in S. Chape M. Spalding, and M. Jenkins editors. The world's protected areas status, values and prospect in the 21st century. University of California Press, Los Angeles, California, USA.
- CIPEC (Centre for the Study of Institutions, Population, and Environmental Change). 2002. International Forestry Resources and Institutions (IFRI) field manual, ver. 10.5. Bloomington: author, Indiana University.
- Conner M, Armitage CJ. 1998. Extending the theory of planned behavior: a review and avenues for further research. *J Appl Soc Psychol* 28:1429–1464.
- Cronbach L. 1957. The two disciplines of scientific psychology. *American Psychologist*, 12, 671–684.
- Dasgupta N. 2001. Implicit attitudes toward lesbians and gay men and their relationship to perceivers' implicit sexual identification. Unpublished.
- De Vaus D. A. 1996. *Surveys in Social Research*. 4th Edition. London: UCL Press.
- EPA. 1997. Environmental Policy, Federal Democratic Republic of Ethiopia. Environmental Protection Authority. Addis Ababa, Ethiopia.
- EPA. 2003. State of environment report for Ethiopia. Federal Democratic Republic of Ethiopia. Environmental Protection Authority. Addis Ababa, Ethiopia.
- Gelcich S, Edwards-Jones G, Kaiser MJ. 2005. Importance of attitudinal differences among artisanal fishers toward co-management and conservation of marine resources. *Conserve Biol* 19:865–875.
- Guijt I., & Shah M. K. 1998. *The Ourth of Community: Gender Issues in Participatory Development*. London (Eds): Intermediate Technology Publications.
- Hardin G. 1968. The Tragedy of Commons, *Science*, 162, pp 1243-1248.
- Hayes T. M. 2006. Parks, people, and forest protection: an institutional assessment of the effectiveness of protected areas. *World Development* 34(12):2026–2075.
- Heinen J. T., and R. J. Shrivastava. 2009. An analysis of conservation attitudes and awareness around Kaziranga National Park, Assam, India: implications for conservation and development. *Population & Environment* 30:261-274. <http://dx.doi.org/10.1007/s11111-009-0086-0>
- Hu, Chen-Xia, Fu, Bo-Jie, Chen, Li-Ding and Gulinck, Hubert. 2006. Farmers' attitudes towards the Grain-for Green program in the Loess hilly area, China: A case study in two catchments: *International Journal of Sustainable Development & World Ecology* 13: 211–220
- Husain Z, Bhattacharya RN. 2004. Attitudes and institutions: contrasting experiences of Joint Forest Management in India. *Environ Dev Econ* 9:563–577
- Infield M. 1988. Attitudes of Rural Communities towards Conservation and a Local Conservation Area in Natal, South Africa. *Biological Conservation*, 45: 21-46.
- JICA. 2006. Outline of the project. In: Japan International Cooperation Agency. <http://www.jica.go.jp/project/ethiopia/0604584/english/01/index.html>. Accessed 15 Mar 2015.
- Jodha N. S. 1986. Common Property Resources and Rural Poor in Dry Regions of India. *Economic and political weekly* 1169-1181.
- Keeley J, Scoones I. 2000. Knowledge, power and politics: the environmental policy-making process in Ethiopia. *J Mod Afr Stud* 38:89–120.
- Kideghesho JR, Roskaft E, Kaltenborn BP. 2007. Factors influencing conservation attitudes of local people in Western Serengeti, Tanzania. *Biodivers Conserv* 16:2213–2230.

- Lee TM, Sodhi NS, Prawiradilaga DM. 2009. Determinants of local people's attitude toward conservation and the consequential effects on illegal resource harvesting in the protected areas of Sulawesi (Indonesia). *EnviroConserv* 36:157–170.
- Lepetu J. P., and Garekae H. 2015. Attitudes of Local Communities towards Forest Management Practices in Botswana: The Case Study of Kasane Forest Reserve. *International Journal of Agriculture and Forestry* 2015, 5(2): 138-145.
- Lindsey P. A., J. T. du Toit, and M. G. Mills. 2005a. Attitudes of ranchers towards African wild dogs *Lycaonpictus*: conservation implications on private land. *Biological Conservation* 125:113–121.
- MacuraBiljana, Francisco Zorondo-Rodríguez, Mar Grau-Satorras, Kathryn Demps, Marie Laval, C. A. Garcia, and Victoria Reyes-García. 2011. Local community attitudes toward forests outside protected areas in India. *Impact of Legal Awareness, Trust, and Participation. Resilience Alliance. Ecology and Society* 16(3): 10.
- Maikhuri RK, Nautiyal S, Rao KS, Saxena KG. 2001. Conservation policy-people conflicts: a case study from Nanda Devi Biosphere Reserve (a World Heritage Site), India. *Forest Policy and Economics* 2: 355-365.
- Malcolm L. Hunter. Jr., James P. Gibbs. 2006. *Fundamentals of conservation biology*, 3rd edition. Wiley-Blackwell. ISBN: 978-1-4051-3545-0
- Matta JR, Alavalapati JRR. 2006. Perceptions of collective action and its success in community based natural resource management: an empirical analysis. *Forest Policy Econ* 9:274–284.
- McKelvey R. D., and W. Zavonia. 1975. A statistical model for the analysis of ordinal level dependent variables. *Journal of Mathematical Sociology* 4:103–20.
- Moswete N.N., Thapa, B. and Child, B. 2012. Attitudes and Opinions of Local and National Public Sector Stakeholders towards Kgalagadi Transfrontier Park, Botswana. *International Journal of Sustainable Development & World Ecology*, 19, 67-80.
- Newmark W.D., Leonard, N.L., Sariko, H.I. and Gamassa, D.G.M. 1993. Conservation attitudes of local people living adjacent to five protected areas in Tanzania. *Biological Conserve.*, 63, 177-183.
- Ogunjinmi A., Onadeko S., and Adewumi A. 2012. An Empirical Study of the Effects of Personal Factors on Environmental Attitudes of Local Communities around Nigeria's Protected Areas. *The Journal of Trans-disciplinary Environmental Studies*, vol. 11, no. 1, 2012 ISSN 1602-2297.
- ORDA (Organization for Rehabilitation and Development of Amhara). 2011. A survey report on assessing and identifying alternative livelihood options for NRCTDCs in the target weredas of East Gojjam Zone. DebreMarkos. (Unpublished)
- Ormsby A. and B. A. Kaplin. 2005. A framework for understanding community resident perceptions of Masoala National Park, Madagascar. *Environmental Conservation* 32:156-164.
- Ostrom E. 1990. *Governing the commons: The evolution of institutions for collective action*. Cambridge University Press.
- PFMP. 2006. The PFMP programme. In: FARM Africa. <http://www.pfmp-farmsos.org/projects-intro.htm>. Accessed 20 Feb 2016.
- Poteete, A. and E. Ostrom. 2003. *In pursuit of comparable concepts and data about collective action*. Cambridge: Cambridge University Press.
- Praneetham C. N. Theingkamol K. Thathong and T. Theingkamol. 2012. Factors affecting villagers' participation in community environment development. *Mediterranean Journal of Social Sciences*. Vol. 3 (11).
- Pretty J. and D. Smith. 2004. Social capital in biodiversity conservation and management. *Conservation Biology* 18 (3):631–638.
- Ray B., & Bhattacharya R. N. 2013. Stakeholder attitudes and conservation of natural resources: Exploring alternative approaches. In: S. Banerjee, and A. Chakrabarti (Eds.), *Development and Sustainability: India in a Global Perspective*. (pp. 463-495). New Delhi: Springer.

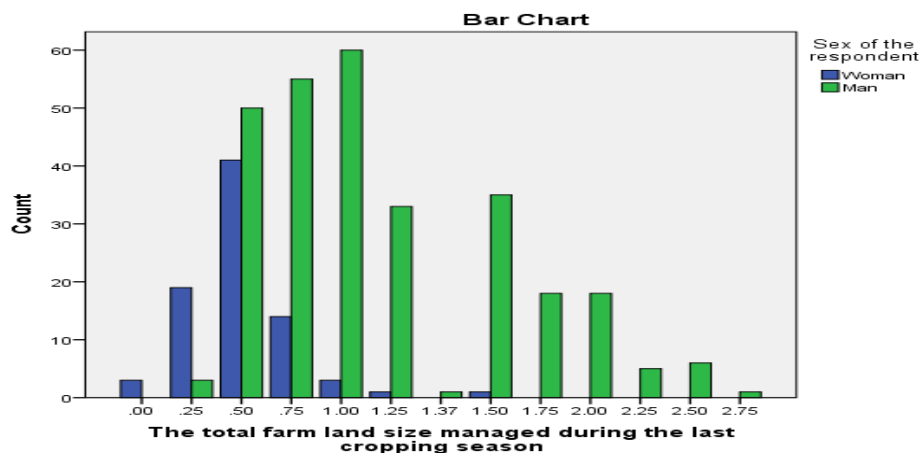
- Reed M. S. 2008. Stakeholder participation for environmental management: a literature review. *Biological Conservation* 141:2417–2431.
- Romanach S. Lindsay A. and Woodroffe R. 2007. Determinants of Attitudes towards Predators in Central Kenya and Suggestions for Increasing Tolerance in Livestock Dominated Landscape. *Oryx*, 4(2): 185-195.
- Shibia M.G. 2010. Determinants of Attitudes and Perceptions on Resource Use and Management of Marsabit National Reserve, Kenya. *Journal of Human Ecology*, 30(1): 55-62.
- Sifuna N. (2010) Wildlife Damage and its Impacts towards Conservation: a Comparative Study of Kenya and Botswana, With Particular Reference to Kenya's Laikipia Region and Botswana's Okavango Delta Region. *Journal of Asian and African Studies*, 45:27.
- Silori C. S. 2007. Perceptions of local people towards conservation of forest resources in Nanda Devi Biosphere Reserve, north-western Himalaya, India. *Biodiversity and Conservation* 16:211-222.
- Simane Belay. 2011. Building Resilience to Climate Change and Green Economy in Mountain Ecosystems of Ethiopia. Integrating Research, Capacity Building and Sustainable Development Activities. In *Proceedings of the Stakeholders Workshop, DebreMarkos, Ethiopia*, 10–13 June 2011.
- Snell E.J. 1964. A Scaling Procedure for Ordered Categorical Data. *Biometrics*, 20 592–607.
- SPSS. 2015. Statistical Package for Social Sciences. Advanced Statistics Version 22. SPSS Inc.
- Stewart M. B. 2004. A Comparison of Semi-parametric Estimators for the Ordered Response Model. *Computational Statistics and Data Analysis* 49: 555–573.
- Struhsaker TT, Struhsaker PJ, Siex KS. 2005. Conserving Africa's rain forests: problems in protected areas and possible solutions. *BiolConserv* 123:45–54.
- Sunderlin W, Hatcher J, Liddle M. 2008. From exclusion to ownership? Challenges and opportunities in advancing forest tenure reform. The Rights and Resources Initiative, Washington DC.
- Tessema ME, Lilieholm RJ, Ashenafi ZT, Leader-Williams N. 2010. Community attitudes toward wild life and protected areas in Ethiopia. *Soc Nat Resour* 23:489–506.
- TewodrosWuletaw, 2008. Factors affecting the knowledge, attitude and practice of forest dependent Manja community towards forest conservation in Kaffa zone, SNNPE, MA Thesis Addis Ababa University School of Graduate Studies Regional and Local Development Studies (RLDS).
- Tomicevic J, Shannon MA, Milovanovic M. 2010. Socio-economic impacts on the attitudes towards conservation of natural resources: case study from Serbia. *Forest Policy Econ* 12:157–162.
- Trakolis, D. 2001. Local People's Perceptions of Planning and Management Issues in Prespes Lakes National Park, Greece. *Journal of Environmental Management*, 61, 227-241.
- Triguero-Mas M., M. Olomi-Sola N. Jha, F. Zorondo-Rodrigues, and V. Reyes-Garcia. 2010. Urban and rural perceptions of protected areas: a case study in Dandeli Wildlife Sanctuary, India. *Environmental Conservation* 36:208-217.
- UNEP-WCMC (United Nations Environmental Programme World Conservation Monitoring Centre). 2004. Defining protected area management categories. Protected Areas and World HeritageProgramme. Available from <http://www.unep-cmc.org/>.
- White A, Martin A. 2002. Who owns the world's forests? Forest tenure and public forests in transition. *Earth scan /James & James, London*, p 72.
- Yamane Taro, 1967. *Statistics, an introductory analysis*, 2nd ed., New York: Harper and Row.

Appendices

Appendix 1. Gender differential on access to different benefits rendered for the NRCTDCs'

Variable	Dimension	Women(82)	Men (285)
Participation in Participatory Forest Management training(s)	Yes trained	25(30.5%)	121(42.5%)
	Not trained	57(69.5%)	164(57.5%)
Additional social role participation	Cooperative leader	5(6.1%)	49(17.2%)
	Kebele administrator	8(9.8%)	60(21.0%)
	No more social role	69(84.1%)	176(61.8%)
Participation in financial progress report meeting	Participated	25(30.5%)	121(42.5%)
	Not participated	57(69.5%)	164(57.5%)
Participation in additional income generating training(s)	Trained	17(20.7%)	127(44.6%)
	Untrained	65(79.3%)	158(55.4%)
Frequency of extension workers' visit	Seldom	64(78.0%)	34(11.9%)
	Regularly	18(22.0%)	137(48.1%)
	Most often	0(0%)	114(40.0%)
Participation in off/non-farm activities	Participated	52(63.4%)	149(52.3%)
	Not participated	30(36.6%)	136(47.7%)

Source: own data 2018



Appendix 2. Gender and own farm land holding size

Appendix 3. Literacy level and its differential treatment on access to different benefits

Variable	Dimension	Literate	Illiterate	Total
Participation in Participatory Forest Management training(s)	Trained	137(93.8%)	9 (6.2%)	146
	Untrained	107(48.4%)	114(51.6%)	221
Additional social role participation	Cooperative leader	50(92.6%)	4(7.4%)	54
	Kebele administrator	60(88.2%)	8(11.8%)	68
	No more social role	134(54.7%)	111(45.3%)	245
Participation in financial progress report meeting(s)	Participated	137(93.8%)	9(6.2%)	146
	Not participated	107(48.4%)	114(51.6%)	221
Participation in additional income generating training(s)	Trained	109(75.7%)	35(24.3%)	144
	Untrained	135(60.5%)	88(39.5%)	223
Frequency of extension workers' visit	Seldom	45(46.0%)	53(54.0%)	98
	Regularly	96(62.0%)	59(38.0%)	155
	Most often	103(90.4%)	11(9.6%)	114

Source: Own survey 2018

Knowledge, Attitude and Early Sexual Debut and Associated Factors among HIV Positive Youths in East and West Gojjam Zones, North West Ethiopia: A Cross Sectional Study

Nurilign Abebe Moges*¹, Habtamu Mellie Bizuayehu¹

NAM, nure113@gmail.com and HMB, habtamumellie@gmail.com

¹Public Health Department, Medicine and Health Sciences College, Debre Markos University, Debre Markos, Ethiopia

Abstract

Background: Research is needed to investigate the relationship among level of knowledge, attitude and early sexual debut to inform practices that support young people living with HIV engage in sexual practices. A cross-sectional study was conducted among 343 (15-24 years of age) HIV positive youths. The study is conducted in Felege Hiwot and Debre Markos referral hospitals, northwest Ethiopia from December 2016 to February, 2017. Systematic random sampling technique was used to select the participant. Data were entered into Epi data and analyzed using SPSS version 20. Possible associated factors were screened by using binary logistic regression and independent variables with P-value less than 25% were included into multivariate logistic regression model then variables with a $P < 0.05$ at 95%CI and odds ratio for statistical significance declaration. The result showed 343 with 89.3% of response rate successfully participated. Majority 217 (63.3%) were females. More than a third of them 133 (38.8%) had poor knowledge concerning HIV and almost all (97.7%) had a favorable attitude towards people living with HIV. More than half 194 (56.6%) had sexual experience with average age of first sexual initiation at 17 (SD, ± 3) years. Early sexual initiation (less than 18 years) was 90 (46.6%) with 95% CI of (39.2% to 53.6%). About 60 (43.8%) of them did not use condom consistently. Considering factors associated with early sexual initiation, those who did not chew khat were 3.23 times more likely to engage in early sexual practice (3.23, 95% CI, 1.54-6.79). Higher numbers HIV positive youths had poor knowledge about HIV while most of them had favorable attitudes. Level of knowledge and consistent condom use was negatively associated. Non khat users were more likely to engage in the early sexual practice.

Keywords: Young, Knowledge, early sexual practice, attitude, North West Ethiopia

Introduction

According to the Ethiopian Health and Demographic Survey (EDHS) reported of 2016, the median age at first sexual intercourse for women and men is 16.6 and 21.2 years respectively [1]. First sexual intercourse and the early progression of different sexual behaviors are of concern because of their direct relationship to sexually transmitted infections [2, 3] and unwanted teenage pregnancies [4].

The magnitude of risk sexual practice was 16.7% among high school students in Gondar, Northwest Ethiopia [5]. Similarly in another study, 25% of students practiced at least one HIV risky behavior in Ethiopia [6]. Again in a study about parent adolescent communication about sexual and reproductive health among high school students Beshnagul Gumz Ethiopia, show that the median age of first sexual debut was 16.4 years with 54.8% of them not using condom [7]. Among women with high levels of knowledge decreased likelihood of using condoms [8]. Similarly, young men with high levels of HIV/AIDS knowledge were more likely to have had three or more sexual partners but young women with high knowledge levels were more likely to have only one lifetime sexual partner [8]. Contrary to that Mexican findings, in Gambella Ethiopia; adequate knowledge about HIV/AIDS were not associated with decreased risky sexual practice [9]. Attitude was reported as the weakest predictors of condom use among sexually active youths in Addis Ababa, Ethiopia [10]. These indicated that the relationship between knowledge on HIV transmission and prevention methods, attitude towards HIV positive people with risky sexual behavior is not well documented. Additionally, several studies show that, the mean and or median age of sexual initiation was below 18 years in Ethiopia among the general youth population [5, 6, 11-13]. However, there was no

study concerning HIV positive youths. Thus the current research is aimed at investigating the relationship among knowledge, attitude and sexual practices among HIV positive youths.

Methods

Study design and setting: A cross-sectional study among HIV positive youths between the ages of 15 and 24 years was conducted in Felege Hiwot Referral Hospital, Bahir Dar and Debre Markos Referral Hospital, Debre Markos, Northwest Ethiopia. Detail methodological issues were published elsewhere [14].

Ethical consideration

Ethical approval and clearance for this study was obtained from Debre Markos University Ethical review Committee under the code of letter “Research 24/11/10”. For children less than 18 years the parents or guardians gave written consent. Those aged 18 to 24 gave also written consent. Those study participants who had symptoms concerning for a sexually transmitted disease (STD) at the time of data collection were referred for clinical care and treatment.

Results

The mean age of the respondents was 19.83 (SD of ± 3.5 years), and the majority 33.8% of them were within the age groups of 15-17 years. Most of them have completed primary education (Table 1 was published elsewhere [14]). Participants were also interviewed on 14 HIV/AIDS related questions adapted from validated study in South Africa [15]. A significant number of respondents had poor knowledge in each of the specific questions with an overall rate of poor knowledge among 133 (38.8%) (Table 1).

Participants were also interviewed on 9 attitude-related questions adapted from similar study above. Most of 97.7% the respondents have a favorable attitude towards people living with HIV/AIDS (Table 2).

The magnitude of early sexual initiation (<18 years) was 90 (46.6%) with (CI=95% CI (39.2-53.6)). Most of the participants had sexual experiences 194 (56.6%) and the average age in years at first sexual debut was 17 (SD, ± 3). Those with life time multiple sexual partners were 115 (59.3%), and they had an average of 2 sexual partners.

From a total comprehensive HIV related knowledge as the dependent variable and other independent variables computed, females were 3.38 times more likely to have poor knowledge compared to males (3.38, 95% CI=1.24-9.22).

Some of the independent variables namely female sex, alcohol and khat chewing were found to be associated with early sexual practice. However, only khat use was negatively associated with early sexual practice using the multivariate analysis (Table 3).

Discussion

About 38.8% (at 95% CI, 33.4-43.8) HIV positive youths had poor comprehensive HIV related knowledge. The study realised that there are numerous misconceptions about HIV transmission. This was evidenced from this study that, a number of participants believed HIV can be transmitted by kissing. There were quite a number who believed that washing after sexual intercourse can prevent HIV transmission and sexual intercourse with a virgin can also get rid of HIV. A number of participants also did not know that as HIV can be transmitted from HIV positive mother to

their children during pregnancy, delivery, and breastfeeding. The comprehensive level of HIV related knowledge was higher in this current study than other previous studies in Ethiopia among university students were poor knowledge [6, 16-18]. This difference may be attributed to the fact that our study population are in clinical care that enhance their knowledge about HIV/AIDS. However, still the results very low that call attention of health care provider to engage in continues awareness of those age groups. But these study participants had better knowledge compared with a study in school children in eastern Ethiopia and had lower knowledge than another study carried out among Ambo university students in Ethiopia. The reason might be university students are more aware than high school students [19]. However, the study participants were expected to be knowledgeable as they should have received medical education in every clinical visit. Therefore, there is an enormous misconception on ways of HIV transmission by HIV positive youths in North-west Ethiopia. There are also false beliefs on HIV treatment as 13.1% of them replied as HIV can be cured completely, 25.1% thought HIV is a punishment from God, 6.4% thought single sexual intercourse could not transmit HIV, and healthy looking people did not transmit HIV. This finding was better awareness than a study in south-west Nigeria [20] that reported that, 37.3% of youth said pregnant women could not spread the disease to their children and 48.1% of them believed, HIV could be cured. It was obvious that HIV positive youths in this study received first hand education from the health professionals who attended to them. It could also be due to the fact that, the duration or time gap accounted for this very findings considering the duration of the Nigerian study. HIV/AIDS is a public health problem despite the poor knowledge of participants in this current study. Again, the knowledge base of both positively and negatively tested individuals for the disease has not changed.

Females were 3.38 times more likely to have poor HIV related knowledge than male counterparts. Females poor knowledge is similar to a study in Lao People's Democratic Republic among male students who had good HIV related knowledge [21]. However in a study among Iranian students females were more knowledgeable than males [22]. This discrepancy may be explained as the Iranian research was among students and our research is in the general HIV positive youths. The result presented currently explains the need for policy planning on how to increase awareness of HIV positive people in general and HIV positive youth in particular in order to enhance prevention strategies through improved knowledge of HIV transmission and prevention. Therefore, health professionals should focus on health education with more emphasis on females. Similarly, those who did not use condoms consistently were 71% less likely to have poor knowledge. The reason can be explained as the study is cross sectional design that cannot establish causal relationship between the variables. Hence appropriate design can solve such controversies. But still it is understood that poor HIV related knowledge has relationship with inconsistent condom use regardless the direction of the cause. The result implied that, people did not use condoms is not because of their poor knowledge but instead other factors like partner opposition, lack of awareness and want to be pregnant. This study is in line with other studies in Gondar, Ethiopia and South-west Nigeria that indicates male were practicing more risky sexual behaviors than females even though they had good HIV related knowledge [6, 20]. Therefore, knowledge is not a guarantee to using a condom consistently and other hindering factors has to be exploited further to understand the cause.

The attitude of HIV positive youth was also assessed using likert scale questions ranged from strongly agree to disagree strongly. Majority of participants (97.7%) have a favorable attitude towards people with HIV. As a result of higher report no further analysis was done in associated factors. This result is higher than other studies in Ethiopia and elsewhere [6, 20, 23]. The good attitude may be explained by the fact that, these youths are HIV positive and got a chance to get counseling in their respective health facilities. Despite of poor level of knowledge, this high favorable attitude can be by a study that demonstrate the amount of knowledge has no effect on attitude [24]. On the other hand improved score of knowledge can be accounted from the fact that there is social and community attitude change in general and also among HIV positive individuals in particular towards people with HIV/AIDS

over time. Furthermore the association on level HIV knowledge and attitude towards people with HIV and AIDS should be explored.

In the present study, 46.4% of youths practiced first sexual intercourse before 18 years of age with average age of 17 (SD, ± 3 years). This result is similar with studies in different parts of Ethiopia [17, 19, 25]. There were more than half of the participants who had multiple sexual partners. High number (63.3%) of HIV positive youth with single current partnership have had HIV negative sexual partner similarly those 58.2% with multiple sexual partner have had HIV negative sexual partners. The finding demonstrates their poor knowledge contribution on ways of HIV transmission to have HIV negative sexual partners. Even some did not know HIV status of their current sexual partners which might be due to high level of favorable attitude towards HIV positive people. However further qualitative study may uncover why most of HIV positive youth had HIV negative sexual partners. This finding is more severe than other studies in Ethiopia [6, 26] since the study participants are HIV positive and significant number of them had HIV negative sexual partners. This problem is also likely to be doubled as 29.4% of them never use a condom during sexual intercourse, and 43.8% use condom inconsistently. Similar studies also revealed that such risky sexual practices will lead to sexually transmitted infections including HIV and are likely to increase teenage pregnancy [27]. The favorable attitude and poor knowledge of participants might have contributed for them having negative sexual partners. Therefore, youths should be educated on less risky sexual practices for their health and to the prevention of further HIV infection to the negative sexual partner. More education is also required on the consistent use of condoms as well as counseling on the need to knowing their sexual partners HIV status.

Participants who did not use khat were 3.23 times more likely not to engage in the early sexual debut. The finding implied that, those who chew khat did not engage in early sexual intercourse. However different studies indicated that those who use a substance like alcohol [25] khat chewing among Ethiopian youth [28] was a risk factor for early sexual practice. The discrepancy could be a due to the limitation of cross sectional study design and so it is difficult to indicate which variable appeared initially. However, one study revealed that there is no association between khat chewing and erectile dysfunction [29]. Therefore, it is recommended that, an observational study is undertaken to identify cause and effects of khat use and early sexual initiation.

Limitations of the study

The study was it includes only HIV positive youth who seek care in hospitals that could exclude those outside clinical care. The second limitation is since the study design is cross sectional it cannot show cause effect relationship between dependent and independent variables.

Declarations

Ethical approval and consent to participant

Ethics approval was obtained from Debre Markos University research ethics approval committee prior to data collection.

Availability of data and material

Data will be available upon request of the corresponding author.

Acronym and abbreviation

AIDS: Acquired Immune Deficiency Syndrome

ART: Anti Retro Viral Therapy

HIV: Human Immune deficiency Virus

References

1. ICF, C.S.A.C.E.a., *Ethiopia Demographic and Health Survey 2016*. Addis Ababa, Ethiopia, and Rockville, Maryland, USA: CSA and ICF. 2016.
2. Kahn, J.A., et al., *Mediators of the association between age of first sexual intercourse and subsequent human papillomavirus infection*. Pediatrics, 2002. **109**(1): p. E5.
3. Musie Ghebremichael, U.L., and Elijah Paintsil, *Association of Age at First Sex with HIV-1, HSV-2 and other Sexual Transmitted Infections among Women in Northern Tanzania*. NIH Public Access, 2012. **36**(9).
4. Humblet, O., C. Paul, and N. Dickson, *Core group evolution over time: high-risk sexual behavior in a birth cohort between sexual debut and age 26*. Sex Transm Dis, 2003. **30**(11): p. 818-24.
5. Gashaw Andargie, A.K., Feleke Moges, Yigzaw Kebede, Molla Gedefaw, Fisseha Wale, Atnaf Alem, and S.A. Berhanu Andualem, *Low prevalence of HIV infection, and knowledge, attitude and practice on HIV/AIDS among high school students in Gondar, Northwest Ethiopia* Ethiop J Health Dev't, 2007. **21**(2).
6. Shiferaw, Y., et al., *Assessment of knowledge, attitude and risk behaviors towards HIV/AIDS and other sexual transmitted infection among preparatory students of Gondar town, north west Ethiopia*. BMC research notes, 2011. **4**(1): p. 505.
7. Desalegn Gebre Yesus, M.F., *Assessing communication on sexual and reproductive health issues among high school students with their parents, Bullen Woreda, Benishangul Gumuz Region, North West Ethiopia*. Ethiop J Health Dev't, 2006. **24**(2).
8. Tapia-Aguirre, V., et al., *Associations among condom use, sexual behavior, and knowledge about HIV/AIDS. A study of 13,293 public school students*. Archives of Medical Research, 2004. **35**(4): p. 334-343.
9. Negash, Y., et al., *A community based study on knowledge, attitude and practice (KAP) on HIV/AIDS in Gambella town, Western Ethiopia*. Ethiopian Journal of Health Development, 2003. **17**(3): p. 205-213.
10. Taffa, N., et al., *Psychosocial determinants of sexual activity and condom use intention among youth in Addis Ababa, Ethiopia*. International journal of STD & AIDS, 2002. **13**(10): p. 714-719.
11. CSA, I., *Ethiopia demographic and health survey 2011*. Addis Ababa, Ethiopia and Calverton, Maryland, USA: Central Statistical Agency and ICF International, 2012. **430**.
12. Malaju, M.T. and G.A. Asale, *Association of Khat and alcohol use with HIV infection and age at first sexual initiation among youths visiting HIV testing and counseling centers in Gamo-Gofa Zone, South West Ethiopia*. BMC international health and human rights, 2013. **13**(1): p. 10.
13. Mitike Molla, Y.B., Bernt Lindtjörn, *Traditional values of virginity and sexual behaviour in rural Ethiopian youth: results from a cross-sectional study*. BMC Public Health, 2008. **8**(9).
14. Nurilign Abebe Moges, H.M.B., *Sexual Behavior of Perinatally Infected Youth in Northwest Ethiopia: Implication for HIV Prevention Strategy*. Hindawi AIDS Research and Treatment, 2018. **Volume 2018**(<https://doi.org/10.1155/2018/1573845>): p. 6.
15. Paul Bowen, R.G., Peter Edwards, *Validating survey measurement scales for AIDS-related knowledge and stigma among construction workers in South Africa*. BMC Public Health, 2016. **16**(70).
17. Wondemagegn Mulu, M.Y., Bayeh Abera, *Sexual behaviours and associated factors among students at Bahir Dar University: a cross sectional study*. BMC Reproductive Health, 2014. **11**(84).
18. Ahmed Yasin Mohammed, T.B.T., Muktar Beshir Ahmed, *Knowledge, Attitude and Practice On HIV/AIDS Prevention Among Batu Terara Preparatory School Students in Goba Town, Bale Zone, Southeast Ethiopia*. OMICS 2013. **5**(1).
19. Zekariyas Sahile, M.M., Abenezer Yared, *Comprehensive HIV/AIDS Knowledge and Sexual Behavior among University Students in Ambo, Central Ethiopia: Implication to Improve Intervention*. Hindawi Journal of Sexually Transmitted Diseases, 2015. **2015**(6).
20. Odu, B.K. and F.F. Akanle, *Knowledge of HIV/AIDS and sexual behaviour among the youths in South West Nigeria*. International Journal of Tropical Medicine, 2008. **3**(4): p. 79-84.
21. Thanavanh, B., et al., *Knowledge, attitudes and practices regarding HIV/AIDS among male high school students in Lao People's Democratic Republic*. Journal of the International AIDS society, 2013. **16**(1).
22. Tavoosi, A., et al., *Knowledge and attitude towards HIV/AIDS among Iranian students*. BMC public health, 2004. **4**(1): p. 17.
23. Lemessa Oljira1\$, Y.B.a.A.W., *Assessment of comprehensive HIV/AIDS knowledge level among in-school adolescents in eastern Ethiopia*. Journal of the International AIDS Society 2013,.

24. Fabrigar, L.R., et al., *Understanding knowledge effects on attitude-behavior consistency: The role of relevance, complexity, and amount of knowledge*. Journal of Personality and Social Psychology, 2006. **90**(4): p. 556.
25. Ayele, M.T.a.G., *Factors associated with age at first sexual initiation among youths in Gamo Gofa, South West Ethiopia: a cross sectional study*. BMC Public Health, 2013.
26. Netsanet Fentahun, A.M., *RISKY SEXUAL BEHAVIORS AND ASSOCIATED FACTORS AMONG MALE AND FEMALE STUDENTS IN JIMMA ZONE PREPARATORY SCHOOLS, SOUTH WEST ETHIOPIA: COMPARATIVE STUDY*. Ethiop J Health Dev't, 2014. **24**(1).
27. Joyce C. Abma, G.M.M., *Sexual Activity and Contraceptive Use Among Teenagers in the United States, 2011–2015* PubMed.gov, 2017(104): p. 1-23.
28. Demewoz Haile1*, Y.L., *Khat Chewing Practice and Associated Factors among Adults in Ethiopia: Further Analysis Using the 2011 Demographic and Health Survey*. PLoS ONE 2011. **10**(6).
29. Nassar, O.H. and H.M. Aklan, *Erectile dysfunction among Yemenis: does chewing khat play a role?* The Eurasian journal of medicine, 2014. **46**(2): p. 69.

Table 1: Knowledge levels among HIV positive youths North West Ethiopia

s/n	Knowledge related questions	Yes (%)	NO (%)
1*	Is AIDS spread by kissing	55 (16)	288 (84)
2*	Can a person get AIDS by sharing kitchens or bathrooms with someone who has AIDS?	12 (3.5)	331 (96.5)
3*	Can you get AIDS by touching someone who has AIDS?	14 (4.1)	329 (95.9)
4	Can men give AIDS to women?	317 (92.4)	26 (7.6)
5	Can women give AIDS to men?	319 (93)	24 (7)
6	Must a person have many different partners to get AIDS?	179 (52.2)	164 (47.8)
7*	Does washing after sex help protect against AIDS?	41 (12)	302 (88)
8	Can a pregnant woman give AIDS to her baby?	306 (89.2)	37 (10.8)
9*	Can a person get rid of AIDS by having sex with a virgin?	31 (9)	312 (91)
10	Is HIV the virus that causes AIDS?	289 (84.3)	54 (15.7)
11*	Is there a cure for AIDS?	45 (13.1)	298 (86.9)
12	AIDS can be contracted even with one intercourse	321 (93.6)	22 (6.4)
13	AIDS can be contracted from healthy looking person	321 (93.6)	22 (6.4)
14*	AIDS is a punishment from God	86 (25.1)	257 (74.9)
Total knowledge score of good knowledge correct answer)		210 (61.2)	133 (38.8)

Questions with (*) were reciprocally coded for their negative meanings.

Table 2: Attitude towards people living with HIV/AIDS among HIV positive youths of North West Ethiopia

s/n	Attitude questions	Strongly disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly agree N (%)
1	People who have AIDS are dirty	227 (66.2)	97 (28.3)	4 (1.2)	6 (1.2)	9 (2.6)
2	People who have AIDS are cursed	229 (66.8)	95 (27.7)	3 (0.9)	10 (2.9)	6 (1.7)
3	People who have AIDS should be ashamed	227 (66.2)	91 (26.5)	4 (1.2)	17 (5)	4 (1.2)
4	It is safe for people who have AIDS to work with others, including children	67 (19.5)	31 (9)	3 (0.9)	142 (41.4)	100 (29.2)
5	People who have AIDS must expect some restrictions on their freedom	205 (59.8)	83 (24.2)	6 (1.7)	36 (10.5)	13 (3.8)
6	A person with AIDS must have done something wrong and deserves to be punished	227 (66.2)	94 (27.4)	6 (1.7)	11 (3.2)	5 (1.5)
7	People who have HIV should be isolated	225 (65.6)	102 (29.7)	3 (0.9)	6 (1.7)	7 (2)
8	I do not want to be friends with someone who has AIDS	192 (56)	99 (28.9)	4 (1.2)	36 (10.5)	12 (3.5)
9	People with AIDS shouldn't be allowed to work	225 (65.6)	103 (30)	1 (0.3)	8 (2.3)	6 (1.7)
Favorable attitude towards people living with HIV were 335 (97.7%)						
Unfavorable attitude towards people living with HIV were 8 (2.3%)						

Table 3: Factors associated with early sexual initiation among HIV positive youths in North West Ethiopia

Characteristics	Earl initiation Yes	sexual No	Crud odds ratio 95% CI	Adjusted odds ratio at 95% CI	P-value
Sex					
Male	12	37	1	1	
Female	78	67	3.59 (1.73-7.43)	1.81 (0.99-3.29)	0.054
Alcohol drink					
Yes	44	67	1	1	
No	46	37	1.89 (1.06-3.37)	2.5 (0.97-6.48)	0.059
Khat chewing					
Yes	7	20	1	1	
No	83	84	2.82 (1.13-7.0)	3.23 (1.54-6.79)	0.002

Assessment of Insurance Company's Roles in Ethiopian Construction Industries

Abebe Demissew Gashahun

Debre Markos Institute of Technology, Debre Markos University, Debre Markos 251, Ethiopia)

E-mail: abemule@gmail.com Phone number: +251913818902 and P.O.Box: 269

ABSTRACT

Presently, Ethiopia has relatively an extensive program of infrastructure development and it is growing faster. The construction of new infrastructures, high rising buildings, energy and water work projects, airfields etc. are among the major construction activities. Construction insurance plays an increasingly important role in guaranteeing the success of projects. However, insurance sometimes does not receive the attention for it. Construction risks are uncertain events or conditions that may have an adverse effect on the construction projects. Due to this, this research amid to assesses the insurance practice, the problems and challenges encountered while implementing in Ethiopian construction industries. Questioners were designed and both cense and judgmental sampling techniques were applied. The study finds out most of the contractors are willing to buy insurances for their vehicles and plants and has no awareness about other types of construction insurances like third party and contractor's all risk insurance coverage. On the other hand, insufficient documentation and low level of awareness of customers towards the benefit of insurance, financial and professional shortages are challenges that insurance companies faced. As a result, Ethiopian government should create awareness about insurance and formulate enforcing law that enables using of insurances for all construction works.

Keywords: - construction, contractors, insurance, risk, role

1. Introduction

The construction industry is a vital sector of economy in any countries of the world. But it is considered to a highest degree in developing countries around the globe. In Ethiopia the construction industry is one of the tools for the development of the country and it is a booming industry. The industry has grown substantially in the last ten to fifteen years. The construction industry is a risky business due to the unique characteristics of construction projects which can attributed to the fact that construction projects involves many stakeholders, is subjected to external environment impacts like weather conditions, it involves a large amount of capital, different site conditions for different projects, is time and quality sensitive, and also different complex problems (Heidenhain, 2011).

Insurance companies can be used as a risk transfer mechanism by which the construction stakeholders can exchange their uncertainty for certainty. The uncertainty experienced would include whether a loss will occur, when it will take place and how severe will it be (Ashy B, 2014). This uncertainty makes it very difficult to budget and so the stake holders of the construction industry seek ways of controlling the financial effect of the risk. Insurance offers the opportunity to exchange this uncertain loss for a certain loss: the insurance premium. The contractor agrees to pay a fixed premium and in return the insurance company agrees to meet any losses which fall within the terms of the policy (Hicksone, 1987).

In the construction industry, risk is defined as the presence of potential actual threats or opportunities that influence the objectives of a project planning, construction commissioning, and those objectives are in the form of cost schedule, and quality (Abebe D, 2007). Risk is also defined as the exposure to the chance of occurrences of events adversely or favorably affecting project objectives as a consequence of uncertainty (Randell EG, 2003). Is the failure to meet these targets (Dereje, 2014). Is the possibility of loss, damage or any other undesirable events (FIDIC, 2009)? Is lack of predictability about problem structure, outcomes or consequences in a decision or planning situation (Rahman MM, 2002). Is the effect of uncertainty on objectives (Palemer WJ, 1996)?

Generalizing the above ideas of risk, it can be defined as the chance or probability of occurrence of events that could lead to positive (opportunities) or negative (threats) outcome where measurement is very difficult. There are many parties involved in the construction industry, including clients, consultants, contractors, subcontractors, insurers, and suppliers. All parties involved in the construction industry must confront risk in one guise or another; some risks will be peculiar to one party and some shared with other parties.

The clients of the industry ultimately pay the bill and it is important to understand their needs and expectations. From clients' perspective, the risk management process should start from briefing of project to the handover to users. Clients are the first party to conduct the risk management process and involve contractors during the construction stage or at an earlier stage (EPPA, 2011).

Inevitably, all contracts involve risk. Apart from mobilising the managerial and technical expertise and the entrepreneurial drive of the contractor, the main reason for a client employing a contractor is simply to pass on the risk to someone else. The reward for carrying the risk is the profit which the contractor will expect over and above the estimated costs plus a reasonable commercial return. The higher the risk, the higher will be the profit that will be needed and expected. Contractors have the major responsibility to deal with construction risks (Hicksone, 1987)(FIDIC, 2009). Risks which the contractor will have to consider, allocate, assume or lay off can arise at all stages from bid agreement through to construction and any follow up maintenance contract [Hickson, R. J. 1987].

1.1. Statement of the problem

The construction industry is a high risk business by itself. So what insurance companies do is share some of that risk by charging some amount of money in form of premium payment. However in Ethiopia the role of insurance companies in the construction industry is not always clear as why construction insurance exists and how it operates from the perspective of the construction industry (Melesse, 2006).

Construction insurance is a practice of exchanging a contingent claim for a fixed payment to protect the interests of parties involved in a construction project (Ashy B, 2014) (Hicksone, 1987). Construction insurance is a major method of managing risks in the construction industry (FIDIC, 2009). Its primary function is to transfer certain risks from clients, consultants, contractors, subcontractors and other parties involved in the construction project to

insurers to provide contingent funding in time of difficulty. Construction insurance plays an increasingly important role in guaranteeing the success of projects, with insurers sharing losses resulting from natural disasters and other contingencies (Ashy B, 2014). However, insurance sometimes doesn't receive the attention it deserves because practitioners do not have a clear understanding of risk allocation and the strategy of risk management through insurance (Heidenhain, 2011).

There is a growing body of interests in construction insurance, supporting interactions between the construction industry and the insurance industry. However, it is not always clear why construction insurance exists and how it operates from the perspective of the construction industry. This paper argues that to provide a convincing explanation on this interaction, one need to improve the theoretical and analytic frameworks in four key areas: the nature of construction risks, risk transfer and insurance mechanism, insurable risks, and perspectives on risks from concerned parties.

1.2. Objectives

1.2.1. General objective

The general objective of this research was mainly alarms with creating awareness about the role of insurance companies for those involved the construction sector in Ethiopia.

1.2.2. Specific objectives

The specific objectives of the study were: -

- ❖ To assess the practice of insurance in Ethiopia construction industry.
- ❖ To examine the understanding of stakeholders involved in the construction industry towards being insured.
- ❖ Identify the problems & challenges encountered while practicing the insurance policy for construction industries in Ethiopia.
- ❖ To create the awareness with the construction industry towards being insured.

2. Research methodology

According to Ethiopian **Ministry of Urban Development and Construction** the number of registered contractors for 2018 budget year is about 2937, likewise according to National Bank of Ethiopia there are 16 registered insurance companies so far. As a result censuses sampling was used for insurance companies, and a judgment sampling which is a type of nonrandom sampling based on the opinion of an expert was used for addressing contractors. After that data was analyzed and up on which the conclusions and recommendations were made.

2.1. Questionnaire design

The questionnaire survey was designed to assess the role of insurance companies in the construction industry in perception of the contractors. The questionnaire was based from literature review that was developed through the reference of different books, journals and internet sources. The questionnaire includes two categories, i.e. questionnaire for contractors and questionnaire for insurance companies separately which contains 23 and 18 questions respectively.

3. Result analysis and discussion

The questionnaires were presented with questions designed to identify the problem and challenge encountered while practicing construction insurance policy for construction industries, to create awareness within the construction

industries, to examine the understanding of stakeholders involved in the construction industries towards being insured and to study the practice of insurance in the Ethiopian construction industries. Generally, assesses the role of insurance companies for Ethiopians construction industry while practicing construction insurance and to find out the impact of these problems, which is helpful to develop conclusion and recommendation on the problems encountered.

3.1. Questionnaire response rate

This research verifies the problems in implementing construction insurance such as high premium coverage, difficult to come up with similar cost estimation between Construction Company and the insurance company, misunderstanding between the insurance companies and the insured. These problems have been identified from the questionnaires' that have collected and discussed with the professionals of the contracting parties. Since the research mainly concerns the contractors and insurance, the questionnaires were distributed to 1500 contractors and 16 insurances and among them 1278 and 15 of the companies respectively have filled the questionnaire.

Table 1 Sample distribution and return rate of responses

No.	Stakeholders (participants)	Distributed in No.s	Returned in No.	Returned in percentage (%)
1	Contractors	1500	1278	85.2%
2	Insurance	16	15	93.75%

3.2. Awareness of construction insurance policies

According to the result analysis as shown in table 2, in aggregate 87.21% of the respondents are willing to buy insurance coverage even if it is not precondition for contracting and tendering process. This is resulted from; the construction company believes insurance as an important way of transferring liability that could arise from the construction business at varies level because construction by nature is a highly risky business. On the other hand, the rest 12.79% of the respondents believe that insurance is additional cost for the company so they don't buy insurance coverage for their projects unless they are obliged to buy so. This is due to most of the contractors believe that having insurance coverage for their projects is not that much necessary.

Table 2. Awareness of Construction insurance policies

Types of insurance policies	Contractors respond		
	Yes	No	Percentage of contractors say yes
Contractor's all risk (CAR)	850	428	66.51%
Material damage (MD)	945	333	73.94%
Third party insurances (TPI)	1139	139	89.12%
Labor insurance (LI)	1215	63	95.07%
Construction plant and machinery (CPM)	1278	0	100%
Machinery breakdown insurance (MBI)	1260	18	98.59%

3.3. Insurance coverage of construction projects

Insurance is a way of transferring risk to insuring party in order to minimize risk and damages caused. In Ethiopia most of the construction projects are accident prone and in order to come over these risks most of the contractors questioned for this research have responded that they did not insure their projects in order to minimize the risks. From the collected data 87.48% of the projects under the contractors are not insured. Based on this data the most of the construction contractors are not insured which shows that the contractors are under risk.

Table 3. Insurance Coverage

No	Companies use insurance coverage for project	Companies doesn't use insurance coverage for project	Percentage of insurance coverage
1	160	1118	12.52%

3.4. Practice of

construction insurance by Ethiopian contractors

Accordingly, the data collected indicated that most of contractors use Construction plant and machinery, Contractors all risk and third party insurances policies in their construction projects. On the other hand, there is less insurance coverage for labors, material damages and machinery breakdown of the contractors. This implies that the contractors have a little knowhow of the use of insurance policies for labors, material damages and machinery breakdown and there is no any enforcement particularly for material damage, labor and third party insurance.

Table 4 Percentage of practice of Construction insurance by Ethiopian Contractors

No.	Types of insurance policy	Coverage percentages in percent
1	Contractor's all risk (CAR)	65
2	Material damage (MD)	18
3	Third party insurances (TPI)	55
4	Labor insurance (LI)	35
5	Construction plant and machinery (CPM)	90
6	Machinery breakdown insurance (MB)	39

3.5. Insurance period implemented by contractors

As shown in table 5, that almost all of the contractors implement every year renewable insurance period for those insured properties. This question has the intention of finding out whether the companies use insurance till the end of the project or only agree to satisfy the contract obligation. As per the questionnaire most of the construction contractors use every year renewal policy, this is due to the cost of the premium they pay and the difference in expected risk encountered by the contractors.

Table 5. Insurance period

Insurance period	No of respondents per types of insurance period	Number of users	Percentage of users
Contract time	1119	60	4.69%
Contract time including extension time	1278	0	00%
Every year renewable	1218	99	95.31%

3.6. Claim rejection by insurance company

When an accident occurs, the construction companies claim for replacement payment from the insurance companies. From 100% of the collected data from the respondents for this assessment shows that contractor claims have not been rejected by the insurer

3.7. Reasons of contractor to be insured

According to the respondent response from the questionnaire as shown in figure 1, shows that the driving force for contractors to be insured were legal aspect (LA), new technology (NT), management consideration (MC), safety consideration (SC) and financial consideration (FC) respectively.

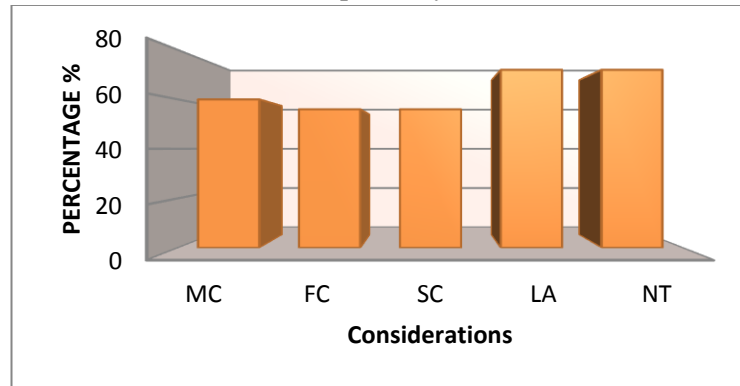


Figure 1. Reason of contractors for being insured

3.8. Insurance policies practiced to contractors by insurer

For each risks encountered in construction projects the insurance companies have specific policies in order to manage it accordingly. Each of these policies has their own general conditions and exclusions. Most of the respondents for this research have low awareness of these construction insurance policies in addition they know only specific type of the insurance policy which they are forced to use for contractual purposes. Considerable number of respondents has no insurance converges and number of contractors doesn't care to have it even though they have the knowhow and the contract obligation. The data collected from the questionnaire shows that most of the insurance company provide insurance coverage for third party insurance, contractor's all risk insurance, contractor's plant and machinery insurance, machinery breakdown insurance and erection all risk insurance coverage respectively in descending order respectively as shown in figure 2.

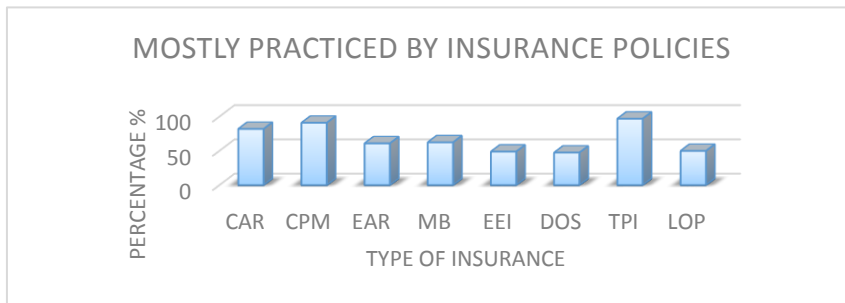


Figure 2. Insurance Policies Practiced to Contractors by insurer

3.9. Major challenges of insurance companies in Ethiopia

Generally, the data that collected by questionnaire from insurance companies are show that the main challenges of insurance companies related to engineering industries are insufficient documentation of customers, low level of awareness towards the benefit of insurance, finance capacity of insurance companies, price under cutting, luck of professionals and the absents of strong industries association.

4. Conclusions and recommendation

4.1. Conclusion

Insurance is risk transfer vehicle. It is a payment of premium in exchange for transferring a particular risk from parties to insurers. But most contractors who responded to this research listed the payment premium as cost disadvantage which come up to be a major challenge to use construction insurance.

most construction projects contractors here in Ethiopia misunderstand the policy provisions they signed to buy and mostly their claims are rejected since it is in appropriate claim they raise and because of cost estimation problems raised between the client and the insurer in addition to that since insurance companies are conditional, contractors and other business firms must have to know the conditions and policies of the insurance firms.

This study found that misunderstanding and low awareness about the benefit to be insured as major problem to implement construction insurance by Ethiopian contractors. Addition to that the problems and challenges encountered in the Ethiopian construction industry for contractors were found that high premium payments, low awareness and misunderstanding of the insurance policies, rejection of claims by the insurer due to fallacy of policies and contract documents and problem of estimating the cost of the damage in good faith. Most of the construction firms don't use specific engineering insurance if they are not obliged by the construction contract document and have low awareness.

Generally, this research found that, in Ethiopia, the application and awareness of construction insurance is very low. Even if the law which forces the implementation of construction insurance in construction projects, written in PPA and FIDIC contract documents, which are highly used by the stakeholders of the construction industry here in regulatory parties did not enforce it.

4.2. Recommendation

Based on the findings of this research, the researcher would like to recommend the following points that should give emphasis in the improvement of construction insurance practiced in public works, considering the negative impact of insurance not being practiced in the construction industry.Ethiopia.

To overcome the problems related with knowledge and awareness about the construction insurance policies that should be practiced in the construction industry the government should develop trainings and awareness creation workshops, enforcing construction insurance in all construction projects and controlling mechanism to enforce the practice of insurance stated in the condition of contract.

The other challenge faced by the construction insurance users is that they may not be insured for the risk they require if the insurance company here in Ethiopia is not reinsured of that specific risk from an international reinsuring company. Due to this the government must provide public reinsurance company for local construction companies to satisfy their insurance need and establish a government agency to take responsibility and overlook the construction insurance practice in Ethiopia

Use the advance payment disbursement schedule for the proper usage of the advance payment to give guaranty bonds and monitor for the contractor to go ahead with estimated project completion time for minimizing problems related with improper usages of the advance payment by the contractors and delay on the project completion time.

5. REFERENCE

Abebe D, F. G. (2007, july). Impacts of remedial rights on construction contractures in Ethiopia.

Ashy B, D. K. (2014). Roles of insurance in construction and infrastructure project. Vol. 5, issue 12. *IJCET*.

Dereje, W. (2014). The role of financial institution in the growth of small and medium enterprises in Addis Ababa. Addis Ababa.

EPPA. (2011). Standard bidding document for procurement of works, good and services for competitive bidders. Addis Ababa.

FIDIC. (2009). Condition of contract for construction of building and engineering works designed by the employer (Red Book).

Heidenhain, D. (2011). Managing technological risks: a challenge for professional engineering insurers. Geneva papers on risk insurance-issue and practice.

Hickson, R. (1987). *Construction insurance management and claims*. London: Witherby.

Melesse, M. (2006). *The role of financial institutions for the Ethiopia's construction industry*. Addis Ababa.

Palemer WJ, M. J. (1996). *Construction insurance, bonding and risk management*. NY: McGraw hill professional.

Rahman MM, K. M. (2002). *Risk management in the construction industry; moving towards joint risk management, engineering construction and architectural management*.

Randell EG, Y. D. (2003). Risk manager's insurance guide. Department of community and Economic development, Harrisburg.

Walewski, J. A. (2005). *International project risk assessment*. N.Y.

የምስራቅ ጎጃም ማህበረሰብ ባህላዊ አለባበስና አገልግሎት ማህበራዊ እሴቶች

‘በምንታምር ልንገርህ² ደብረ ማርቆስ ዩኒቨርሲቲ

አጽህፎተ ጥናት

ቁሳዊ ባህል የሚባለው የፎክሎር ዘርፍ አንድ ማህበረሰብ ለመገልገያነት የሚሰራቸው፣በአይን የሚታዩ የሚዳሰሱና በተጨማሪ የሚገኙ የተለያዩ ቁሶችን መግለጫ ነው።ይህ የፎክሎር ዘርፍ ስለማህበረሰቡ አጠቃላይ ጉዳይ በተጨማሪ የሚያሳውቅ ነው።የአንድ ማህበረሰብ ቁሳዊ ባህል ዕለት ከዕለት የኑሮ መገልገያነት ባለፈ መንፈሳዊ ሃብቱን ለማስተላለፍ፣ ለማስቀመጥና ለመጠበቅ የሚጠቀምበት አይነተኛ መንገድ ነው። የሰው ልጅ በዕለት ከዕለት የኑሮ ሂደቱ ከሚጠቀምባቸው ቁሳዊ ባህሎች ዋነኞቹ ባህላዊ አልባሳትና ጌጣጌጥ ናቸው። ልክ እንደ ቋንቋ ሁሉ በባህላዊ አልባሳቱና ጌጣጌጡ ውስጥ የሚገኙት ትዕምርቶች የአንድን ማህበረሰብም ሆነ ግለሰብ ማንነት ከመግለፅ፣ ከማሳየትና ከማሳወቅ አንፃር ከፍተኛ ድርሻ አላቸው። ስለሆነም የዚህ ጥናት ዋና ዓላማ በገጠራማው አካባቢ የሚኖረው የምስራቅ ጎጃም ማህበረሰብ ባህላዊ አልባሳትና ጌጣጌጥ አካላዊ ገፅታ ማሳየትና ትዕምርታዊ ፋይዳ መተንተን ነው። ይህን ዋና ዓላማ ከግብ ለማድረስ ቀዳማዊና ካዕላይ የመረጃ ምንጮችን በመጠቀም በምልክታ፣ በቃለመጠይቅና በተተኳሪ የቡድን ውይይት የመረጃ መሰብሰቢያ መሳሪያዎች መረጃዎች ተሰብስበዋል።በእነዚህ ዘዴዎች የተሰበሰቡ መረጃዎች ከርዕስ ጉዳዩ ጋር ተያያዥነት ባላቸው ንድፈ ሃሳቦች የተቃኙ ሲሆን በገላጭና ተርጓሚ እንዲሁም አልባሳቱ እና ጌጣጌጡ ከሚውሉበት ወይም ከሚጌጡበት የሰውነት ክፍል አንፃር ተከፋፍለው ተተንትነው ቀርበዋል። የጥናቱ ውጤት እንደሚያመለክተው በምስራቅ ጎጃም ማህበረሰብ በርካታ አልባሳትና ጌጣጌጥ አገልግሎት ላይ እየዋሉ ይገኛሉ። እነዚህ አልባሳትና ጌጣጌጥ ከጥጥ፣ የፋብሪካ ውጤቶች ከሆኑ ጨርቆች፣ ከብር፣ ከመዳብ፣ ከቆርቆሮና ከዶቃ(ጨሌ)፣ ከቆዳና ከክር የሚዘጋጁ ናቸው። በጥናቱ ባህላዊ አልባሳቱ እና ጌጣጌቹ ከመለበስ እና ከማስጌጥ ባለፈ በአልባሳቱና በጌጣጌቱ ውስጥ የሚገኙ ትዕምርቶች የማህበረሰቡ የማንነትና የእድሜን መግለጫ፣ የህይወት ምዕራፍ ሽግግር ማሳያ፣የህይወት ፍልስፍና

²በደብረማርቆስዩኒቨርሲቲ፣የኢትዮጵያቋንቋዎችናሥነ-ጽሁፍ (አማርኛ) ትምህርትክፍልመምህርት፣ስልክቁጥር 0910042426፣ E-mail: lmintamir@gmail.com, መስከረም/2012 ዓ.ም

ማንፀባረቂያ፣የማህበራዊ ደረጃና የማህበራዊ ሁኔታ መለኪያ መሆናቸው የሚያመላክቱ እንደሆኑ ተደርሶበታል። እንዲሁም ባህላዊ አልባሳቱና ጌጦች ከፍተኛ ማህበራዊ ትስስር እንደሚፈጥሩና በማህበረሰቡና በላባሽ መካከል ቃላዊ ባልሆነ መንገድ ተግባራትን የመፍጠር አቅማቸው ከፍተኛ መሆኑ ተረጋግጧል። በአጠቃላይ በጥናቱ የተዳሰሱት አልባሳትና ጌጣጌጥ ከገላ መሸፈኛነትና ማስጌያጫነት በተጨማሪ ትዕምርታዊ ውክልናቸው ማህበረ-ኢኮኖሚያዊ እና መንፈሳዊ መግባቢያ ያላቸው በመሆኑ የማህበረሰቡን እሴቶች የሚገልፁ መሆናቸውን መረዳት ይቻላል።

ወሳኝ ቃላት (Key Words): ባህላዊ አልባሳት፣ ባህላዊ ጌጣጌጦች፣ ምስራቅ ጎጃም፣ኢትዮጵያ (Folk Costume, Folk Jewlelry, East Gojjam, Ethiopia)

1. መግቢያ

1.1. የጥናቱ ዳራ

ቁሳዊ ባህል የሚለው ሐረግ አንድ ማህበረሰብ ለመገልገያነት የሚሰራቸው፣በአይን የሚታዩ፣ የሚዳሰሱ እና በተጨማሪም የሚገኙ የተለያዩ ቁሶችን ለመግለፅ የሚጠቅም ስያሜ ነው (Prown,1982)። ይህ የፎክሎር ዘርፍ ስለማህበረሰቡ አጠቃላይ ጉዳይ ወይም ሁኔታ በተጨማሪም የሚያሳውቅና የሚገልጽ ነው (Sims & Stephen, 2005)። Woodward (2007) እንደገለጸው አንድ ማህበረሰብ በዕለት ከዕለት ህይወቱ የሚገለገልባቸው እና የተለያዩ ጉዳዮችን ማለትም እምነቱን፣ አስተሳሰቡን፣ አመለካከቱን የሚያንፀባርቅበት ዋነኛ ዘዴው ጉልበቱን፣ ጊዜውን፣ ሃብቱንና እውቀቱን አፍስሶ በሚሰራቸው ቁሶች ነው። ቁሳዊ ባህል የአንድን ማህበረሰብ መንፈሳዊ ሃብቱን ለማስተላለፍ፣ ለማስቀመጥና ለመጠበቅ የሚጠቀምበት አይነተኛ መንገድ ከመሆኑ በተጨማሪ ባህላዊ ገፅታውን የማሳወቅና የመገለጽ ከፍተኛ አቅም ያለው መሆኑን Prown (1982)ገልጿል።

አንድ ማህበረሰብ በዕለት ከዕለት የኑሮ ሂደቱ ከሚጠቀምባቸው ቁሶች መካከል ባህላዊ አልባሳትና ጌጣጌጥ ዋነኞቹ ናቸው (Yoder, 1972)። ባህላዊ አልባሳት(Folk Costume) የአንድን ማህበረሰብም ሆነ ግለሰብ ማንነት ከመግለፅ አንፃር ከፍተኛ ድርሻ ያላቸው ቁሳዊ ባህሎች ናቸው። ይህን ሀሳብ በተመለከተ Baatshwana(1965)፣Twigg (2007)፣Yoder (1972) እና Wilson (1986) ባህላዊ አልባሳት እንደማንኛውም አልባሳት ሆነው ነገር ግን የተገልጋዩን ማህበረሰብ ማንነት የሚያሳዩ ትእምርቶችን የያዙ እንዲሁም በዚያ ማህበረሰብ ውስጥ በሚገኙ ግለሰቦችና በማህበረሰቡ መካከል ተግባራትን መፍጠር የሚችሉ ናቸው በማለት አስቀምጠውታል። እንዲሁም አልባሳት ማንነትን በማሳየትም ሆነ በመቀየር ወይም በማጥፋት ረገድ የራሳቸው ድርሻ እንዳላቸው Twigg (2007, 7.10) አስረድቷል። አልባሳት ከአካላዊ ገፅታቸው በተጨማሪ በሚይዟቸው ትዕምርቶች አማካኝነት ከሚያስተላልፏቸው ጉልህ መልዕክቶች የመነጨ መሆኑ የሚያሳይ እና ልብስን በማየት የላባሽን ማህበረሰብ ከየትነት እና ባህል መናገር የሚቻልበት አጋጣሚ እንዳለ Lurie(1981) አስረድቷል። Lurie(1981, 7.5) ሀሳቡን ሲያጠቃልልም “clothes are expressions of identity, one of the perennial means whereby we signal to the social world who and what we are” በማለት የአልባሳትን የማግባባት አቅም ከፍተኛነት አስረድቷል።

በመሆኑም ባህላዊ አልባሳት ስንል አንድ ማህበረሰብ የኔ ብሎ በሚመራበት ባህል ውስጥ በሚታወቁ ትእምርቶች የበለፀጉ፣ በማህበረሰቡ ዘንድ ተግባራትን መፍጠር የሚችሉና በሚያስተላልፉት መልዕክትም የተለያዩ ጉዳዮችን ማሳወቅና መግለፅ የሚችሉ ቁሶች መሆናቸውን ከላይ ከተጠቀሱት ነጥቦች መረዳት ይቻላል።

ባህላዊ አልባሳት የተለያዩ መልዕክቶችን የማስተላለፍ ከፍተኛ የሆነ ብቃት አላቸው (Wilson, 1986)። Wilson አያይዞም ይህን የሚያደርጉት በተለይ ኢ-ቃላዊ (non verbal) በሆነ መንገድ ነው።

ምክንያቱም አልባሳት ልክ እንደ ቋንቋ ሁሉ አንድን ማህበረሰብ ለመግለፅ በዋናነት የሚያገለግሉ በመሆናቸው ነው። በአልባሳቱ ትዕምርቶች አማካኝነት የሚተላለፈው መልዕክት ትርጓሜ የሚወሰነው በለባሽ ማንነት፣ በመለበሻ አጋጣሚው እና በመለበሻ ቦታው ስለሆነ የአልባሳቱ ትዕምርታዊ ፋይዳ የሚመሰረተው በአውድ ላይ ነው (Glacia,2008)።

አልባሳት ትዕምርታዊ በሆነ መንገድ ከሚያስተላልፉት መልዕክት በተጨማሪ(1) የአካል ክፍሎችን ከተለያዩ ጎጂ ነገሮች የመከላከል፣ (2) ሀፍረትን የመሸፈን፣ (3)አትኩሮትን የመሳብ እና (4) የማስዋብ አራት ተግባራት አሏቸው(Kaiser, 2004)። እንዲሁም አልባሳት የሰውን ልጅ ውጫዊ አካል ከመሸፈን ባለፈ በአንዳንድ ማህበረሰቦች ዘንድ ከተለያዩ ክፉ መናፍስት የመከላከል ተግባር እንዳላቸው Gracia (2008) ገልጾታል።

ሌላኛውና የዚህ ጥናት አንዱ አካል የሆነው እና ባህላዊ አልባሳት ሲነሳ አብሮ የሚነሳው ጌጣጌጥም በቁሳዊ ባህል ውስጥ የሚመደብ ነው። ይህ የቁሳዊ ባህል ዓይነት እንደ ማህበረሰቡ ባህልና ወግ እንዲሁም መኖሪያ አካባቢው መለያየት ሁሉ የሚበጁበት ቁስና ቅርጽም ልዩነት ያሳያል (Clark,1986)። Clark አያይዞም ጌጣጌጥ እንደ አልባሳት ሁሉ ከመዋቢያነት ባለፈ ባላቸው ትዕምርታዊ ፋይዳ የሚጠቀምባቸውን ግለሰብ ወይም ማህበረሰብ ማንነት፣ የኑሮ ደረጃ፣ እድሜ እና ፆታ ያመለክታሉ ሲል ገልጾታል።

ቁሳዊ ባህል በሳይንሳዊ ዘዴ ትኩረት ተሰጥቶት መጠናት የጀመረው ከቅርብ ጊዜ ወዲህ እንደሆነ (Oestingaard, 2002; Woodward,2007) ገልፀዋል።ከቁሳዊ ባህል መካከል የሆኑት ባህላዊ አልባሳትና ቁሳቁሶች የአንድን ማህበረሰብ ወይም ግለሰብ ማንነት የመግለፅና የማሳየት እንዲሁም ሌሎች በርካታ ፋይዳዎች ቢኖሩትም በሀገራችን በተለያዩ የማህበረሰብ ክፍሎች በዚህ ላይ የተከናወኑ የጥናት ዘገባዎች የቅርብ ጊዜ ናቸው።ከእነዚህም ዘገባዎች መካከል ሰይድ (2002) በከሚሴ ከተማ ዙሪያ፣ አመልማል (2004) በአዊ ባንጃ ወረዳ፣ አፀደ (2003) በኮንሶ፣ የኔዓለም (2000) በአርሲ እና ያፌድ (2002) በሰቆጣና አበርገሌ አካባቢዎች የሚገኙ የተለያዩ የሀገራችንን የማህበረሰብ ክፍሎች ባህላዊ አልባሳትና ጌጣጌጥ አጥንተዋል።

ይሁንና በምስራቅ ጎጃም አካባቢ የሚገኙ የተለያዩ የማህበረሰብ ክፍሎችን አልባሳትና ጌጣጌጥ ላይ ያተኮሩ ጥናቶች በስፋትአይገኙም። አያል (1992) የጎጃም አካባቢን ባህላዊ አልባሳት ስያሜ ቢያጠናውም የአልበሳቱንና የጌጣጌጡን ትዕምርታዊ ውክልናና ማህበራዊ ፋይዳ በጥናቱ አልዳሰሰውም። ስለሆነምይህ ጥናት የተከናወነው የምስራቅ ጎጃም ማህበረሰብ በባህላዊ አልባሳቱ አማካኝነት የህይወት ፍልስፍናውን እንዴት ይገልፀዋል የሚለው ጉዳይለማመላከትና ዘርፉን ማጥናት ያለውን ጠቀሜታ በማሳየት ወደ ሳይንሳዊ ጥናትና ምርምር መድረክ ይበልጥ ለማቅረብ ነው።

1.2. የምርምርጥያቂዎች

ይህ ጥናት የተከናወነው ሶስት ዋና ዋና የምርምር ጥያቄዎችን ለመመለስ ነው። እነዚህም፦

1. የምስራቅ ጎጃም ማህበረሰብ ምን አይነት ባህላዊ አልባሳትና ጌጣጌጥን ይጠቀማል?
2. የምስራቅ ጎጃም ማህበረሰብ በባህላዊ አልባሳቱና ጌጣጌጡ እንዴት ራሱን ይገልፃል? እና
3. በምስራቅ ጎጃም ማህበረሰብ ውስጥ የአልባሳቱና የጌጣጌጡ ትዕምርት ምን ይመስላል? ናቸው።

1.3. የጥናቱዓላማ

የዚህ ጥናት ዋና ዓላማ የምስራቅ ጎጃም ማህበረሰብን ባህላዊ አልባሳትና ጌጣጌጥ አካላዊ ገፅታ ማሳየትና ትዕምርታዊ ፋይዳ መተንተን ሲሆን የሚከተሉት ንዑሳን ዓላማዎች አሉት።

- ✓ የማህበረሰቡን አልባሳት አካላዊ ገፅታ ማሳየት፤
- ✓ የማህበረሰቡን ጌጣጌጥ አካላዊ ገፅታ ማሳየት፤

- ✓ ማህበረሰቡ ለባህላዊ አልባሳትና ጌጣጌጥ የሚሰጠውን ቦታ ማሳየት፤
- ✓ ባህላዊ አልባሳቱና ጌጣጌጡ ባላቸው ትዕምርት የሚያስገኙትን ማህበራዊ ፋይዳ መተንተን።

1.4. የጥናቱጠቀሜታ

- በዚህ ጥናት የተገኙ ውጤቶች የሚከተሉት ጠቀሜታዎች ይኖራቸዋል ተብሎ ይታሰባል፡፡
- ✓ የተጠኝዎችን ማህበረሰብ አልባሳትና ጌጣጌጥ ለሌሎች ማህበረሰቦች ያስተዋውቃል።
- ✓ የአንድ ማህበረሰብ አልባሳትና ጌጣጌጥ በዕለት ከዕለት ከሚሰጡት ቁሳዊ አገልግሎት በተጨማሪ ትዕምርታዊ ውክልና እንዳላቸውም ያስተዋውቃል፡፡
- ✓ በቁሳዊ ባህል በተለይም በባህላዊ አልባሳትና ጌጣጌጦችላይ ጥልቅ ጥናት ለሚያካሂዱ አጥኝዎች እንደ መነሻ ሀሳብ ሊሆን ይችላል።

1.5. የጥናቱወሰን

ይህ ጥናት ምንም እንኳን ዋና ትኩረቱ አልባሳትና ጌጣጌጥ ቢሆኑም ከቁስነታቸው አንፃር ሲታዩ አካላዊ ገፅታቸውን ከመግለፅ ባለፈ የአሰራር ሂደታቸውን አያጠቃልልም። እንደ (Wilson, 1986) ሃገረሰባዊ አልባሳት (Folk Costume) የተለያዩ ጌጣጌጦችን (Jewelry) የፀጉር አሰራርን (Hair styles) ንቅሳትን (Tattoos) እና የገላ ላይ ጌጦችን (Body decorations) የሚያጠቃልል የጥናት ዘርፍ ቢሆንም ጥናቱን ለማጥናት ካለው ውስብስብነት የተነሳ በዚህ ጥናት ባህላዊ አልባሳትና ጌጣጌጥ ብቻ ተዳሰዋል።

የምስራቅ ጎጃም ማህበረሰብ አባላት በተለያዩ ምክንያቶች በተለያዩ አካባቢዎች ሊገኙ ይችላሉ። ነገር ግን ይህ ጥናት ያተኮረው በምስራቅ ጎጃም ዞን ውስጥ በሚኖሩ ማህበረሰቦች ላይ ብቻ ነው። በተጨማሪም በዞኑ የከተማ ኗሪዎች እንዳሉ ቢታወቅም ይህ ጥናት የተከናወነው በገጠሩ የማህበረሰብ ክፍል አልባሳትና ጌጣጌጥ ላይ ብቻ ነው። ከዚህ በተጨማሪም ይህ ጥናት ለአቅመ አዳምና ለአቅመ ሄዋን ያልደረሱ ልጆችን አልባሳት እና ጌጣጌጥ አያጠቃልልም።

2. የአጠናን ዘዴዎች

2.1. የጥናቱ ቅርጽ (ዲዛይን)

ምርምሩ የተከናወነው ገላጭ የጥናት ቅርጽን (ዲዛይንን) በመከተል ነው። ይህን ዲዛይን መከተል ያስፈለገውዲዛኑ (ሀ) የተለያዩ የመረጃ መሰብሰቢያ ዘዴዎችን ለመጠቀም በማስቻሉ፤ (ለ) የተለያዩ የመረጃ ምንጮችን ለመጠቀም ማስቻሉና ለማመሳከሪያነት (Triangulation) አመች በመሆኑ እና (ሐ) ገላጭ መረጃዎችን ለመተንተና ለተርጓሚ አመች በመሆኑ ነው።

2.2. መካከ ጥናት

ይህ ጥናት የተከናወነው በምስራቅ ጎጃም ዞን ሲሆን ዞኑ በሰሜን ምዕራብ ኢትዮጵያ በአማራ ክልል ይገኛል። አብዛኛው የዞኑ ማህበረሰቦች የአማርኛ ቋንቋ ተናጋሪ ሲሆኑ እ.ኤ.አ በ2007 በተደረገው የህዝብና ቤቶች ቆጠራ ሪፖርት 2,613,835 (በከተማ= 372,264 እና በገጠር= 2,241,571) ህዝብ ይኖራል (CSA, 2007)። ዞኑ በ18 ወረዳዎች የተከፋፈለ ሲሆን አብዛኛው ህዝብ በገጠር አካባቢ ይገኛል። ስለሆነም ይህ ጥናት የተከናወነው በገጠሩ የዞኑ አካባቢዎች በሚገኙ የማህበረሰብ ክፍሎች ላይ ነው። ምክንያቱም በተደረገው የዳሰሳ ጥናት የከተማ ነዋሪው ማህበረሰብ ከራሱ ባህላዊ አልባሳትና ጌጣጌጥ ይልቅ በሎሎች አልባሳትና ጌጣጌጥ ላይ ትኩረቱን ያደረገ ነው።

2.3. የጥናቱ ተሳታፊዎች

የጥናቱ አካላይ (Population) በዞኑ 18ቱም ወረዳዎች በገጠር የሚኖሩ የማህበረሰብ ክፍሎች ናቸው። የጥናቱን ተሳታፊዎች ለመምረጥ በአጠቃላይ ባለሁለት ዳረጃ (Two-stage) (ያለው፣ 1998) ንሞና ዘዴ ተግባር ላይ የዋለ ሲሆን (ስዕል 1) ከዚህ አካላይ ውስጥ አምስት ወረዳዎች (እንማይ፣ ስናን፣ ባሶሊበን፣ ደብረ ኤልያስ እና ኀዛምን) የተመረጡ ሲሆን እነዚህ ወረዳዎች የተመረጡት በዓላማ ተኮር የንሞና ዘዴ ነው። እነዚህን ወረዳዎች ለመምረጥ የዓላማ ተኮር ንሞና ተግባራዊ የተደረገው በወረዳዎቹ የሚገኙት ማህበረሰቦች የሚኖሩት በተለያየ መልክዓ-ምድራዊ ገጽታ ላይ በመሆኑ የሚገለገሉባቸው አልባሳትና ጌጣጌጦች እንዲሁ ሊለያዩ ይችላሉ በሚል መነሻ ሃሳብ ነው (Yoder, 1972)።

ለዚህ ጥናት መረጃ የተሰበሰበው በእነዚህ ወረዳዎች ከሚኖሩ 49 የአልባሳቱና ጌጣጌጦ ተገልጋዮች፣ ሽማ ሰሪዎች እና ጌጣጌጥ ሰሪዎች ነው። ከ49 ሰዎች መካከል 17ቱ በቃለ መጠይቅ 24ቱ በቡድን ውይይት መረጃ በመስጠት የተሳተፉ ሲሆን የቀሩት 8ቱ ሰዎች ቁልፍ ጠቋሚ በመሆን አገልግለዋል። እነዚህ የጥናቱ ተሳታፊዎች የተመረጡት ዓላማ ተኮር የንሞና ዘዴን በመጠቀም ሲሆን (ሀ) ስለባህላዊ አልባሳት ስል እውቀት ያላቸው እና (ለ) የአልባሳቱና ጌጣጌጦ ተገልጋዮች እንዲሁም ሰሪዎች የሚሉ መስፈርቶችን በመጠቀም።

2.4. የመረጃ መሰብሰቢያ ዘዴዎች

የዚህን ጥናት ቀዳማዊ እና ካዕላይ የመረጃ አይነቶችን ለመሰብሰብ ምልከታ፣ ቃለ-መጠይቅ እና የቡድን ተኮር ውይይቶች አገልግሎት ላይ ውለዋል።

ሀ) ምልከታ

በምልከታ የመረጃ መሰብሰቢያ ዘዴ የጥናቱ ተሳታፊዎች አልባሳት እና ጌጣጌጥ አይነት እና አካላዊ ገፅታ ለመመልከት እንዲሁም የማህበረሰቡ የእርስበ እርስ መስተጋብር በቤተ እምነቶች፣ በገበያ ቦታዎች፣ በመኖሪያ መንደሮች እና የዞኑ ባህልና ቱሪዝም ቢሮ በመገኘት ለማየት ተችሏል።

ምልከታው ሲከናወን የፎቶ ምስሎች እንዲሁም የፅሁፍ ማስታወሻዎች ተይዘዋል። የአጠኝዋ መኖር በተሳታፊዎች ላይ አላስፈላጊ ተጽእኖ የሚፈጥርባቸውን ሁኔታዎች ለመቀነስ ሲባል መረጃዎች ሲሰበሰቡ አጥኝዋ ዳር ቁጥ ተመልካች (Non-participant observer) ለመሆን ጥረት አድርጋለች (ያለው፣ 1998)።

የጥናቱ አካላይ (Population)		ምስረት ገጃም ዞን						
ናሙና የተወሰደባቸው (Sample frame)		እንማይ ወረዳ	ስናን ወረዳ	ባሶሊበን ወረዳ	ደብረ ኤልያስ	ኀዛምን ወረዳ	ዓላማ ተኮር ንሞና	
የጥናቱ ናሙና (Sample)	የተሳታፊዎች ምድብ						ደምር	
	ለባሾች	ወንድ	3	2	3	2	3	13
		ሴት	6	4	5	6	7	28
	ሽማ ሰሪ		1	1	1	1	2	6
	ጌጣጌጥ ሰሪ		-	1	-	-	1	2
ደምር			10	8	9	9	14	4 ^ሰ 13

ስዕል 1 የጥናቱ አካላይና ናሙና የተወሰደባቸው ወረዳዎች፣ የተሳታፊዎች ብዛት እና አመራረጥ

ለ) ቃለ-መጠይቅ

በዚህ የመረጃ መሰብሰቢያ መሳሪያ ደግሞ ባህላዊ አልባሳቴ ናጌጣጌጦቹ በማህበረሰቡ የሚሰጣቸውን ቦታ፣ ማህበራዊ ፋይዳቸውን፣ በማህበረሰቡ ውስጥ የቁሶቹን ውክልና ወይም ተምሳሌትነትን በሚመለከት መረጃ መሰብሰብ ተችሏል። እነዚህን ርዕስ ጉዳዮች በሚመለከት ዝግ እና ልቅ የቃለ መጠይቅ ጥያቄዎች ለተሳታፊዎች ቀርበዋል። በዚህ ዘዴ የጥናቱ ተሳታፊዎች የሰጧቸው መረጃዎች በማስታወሻዎች ተይዘዋል።

ሐ) የቡድንተኮርወይይቶች

በዚህ የመረጃ መሰብሰቢያ ዘዴ ቃለ-መጠይቅ ያልተደረጉ ተሳታፊዎችን በጾታቸው በቡድን በቡድን በማድረግ ግልፅ ባልሆኑ እና ልዩነት ባላቸው አልባሳትና ጌጣጌጦ ውክልና ዙሪያ ውይይቶች እንዲያካሄዱ ተደርጓል። በእያንዳንዱ ቡድን ከአራት እስከ አምስት አባላት ያለው አምስት የቡድን ተኮር ወይይቶች ተከናውነዋል። ለተወያዩት ውይይት መነሻ የሚሆኑ ጥያቄዎችን በአጥኝዋ እየተነሱ ውይይት ተደርጎባቸዋል።

2.5. የጥናቱ መረጃ አተናተንና አቀራረብ ዘዴዎች

በጥናቱ የተሰበሰቡ መረጃዎች ገላጭ (Descriptive) እና ተርጓሚ (Interpretative) ዘዴን በመከተል ተተንትነዋል። የአልባሳቴን እና የጌጣጌጦን አካላዊ ገጽታ ማብራሪያ ከተደረገ በኋላትርጉም ሊሰጡ እንዲችሉ ሁኗል። በመጨረሻም አልባሳቴ እና ጌጣጌጦ ከሚውሉበት ወይም ከሚጌጡበት የሰውነት ክፍል አንፃር ተከፋፍለው እና ከጥናቱ ዓላማዎች አኳያ በመከፋፈል የጥናቱ ውጤቶች ቀርበዋል።

2.6. የሥነ-ምግባር መርሆዎች አጠባበቅ

በዚህ ጥናት መሰረታዊ የምርምር ሥነ ምግባር መርሆዎችን ለመጠበቅ ሲባል መረጃ በመስጠት ለተሳተፉ ናሙናዎች የጥናቱን አላማ እንዲረዱት ገለጻ ተደርጎባቸዋል። ከዚህ በተጨማሪ ባህላዊ አልባሳትና ጌጣጌጦ ለብሰው ፎቶ ግራፍ የተነሱ ተሳታፊዎች ፎቶ ግራፋቸው በምርምሩ ሪፖርት ወይም ዘገባ ቢካተት እንደማይቃወሙ በቃላቸው አረጋግጥዋል³።

3. የጥናቱ ውጤትና ማብራሪያ

በዚህ ክፍል መረጃ የተሰበሰበባቸው አልባሳትና ጌጣጌጦ አካላዊ ገፅታና ማህበራዊ ፋይዳተንትነት ቀርበዋል። ባህላዊ አልባሳቴና ጌጣጌጦም ከሰውነት ክፍል መሸፈኛነታቸው እና ከማስዋጢያነታቸው ባለፈ የሚሰጡት ማህበራዊ ፋይዳ ከተለያዩ አጥኝዎች ግኝት አንፃር እየተብራሩ ቀርበዋል።

3.1. ባህላዊ አልባሳት

በዚህ ንዑስ ክፍል ሴቶች የሚለብሱት እንክርት፣ ሙሉ ሽንሽን፣ ጉርድ ሽንሽን እና አርባ ሽንሽን (ቀሚስ) እንዲሁም ወንዶች የሚለብሱት ፎጣ፣ የጉልበት ሱሪ፣ መብሩቅ(ወንጨሬ) እና ጋቢ ከአካላዊ ገፅታቸው አንጻር በገለጻ መልክ ቀርበዋል።

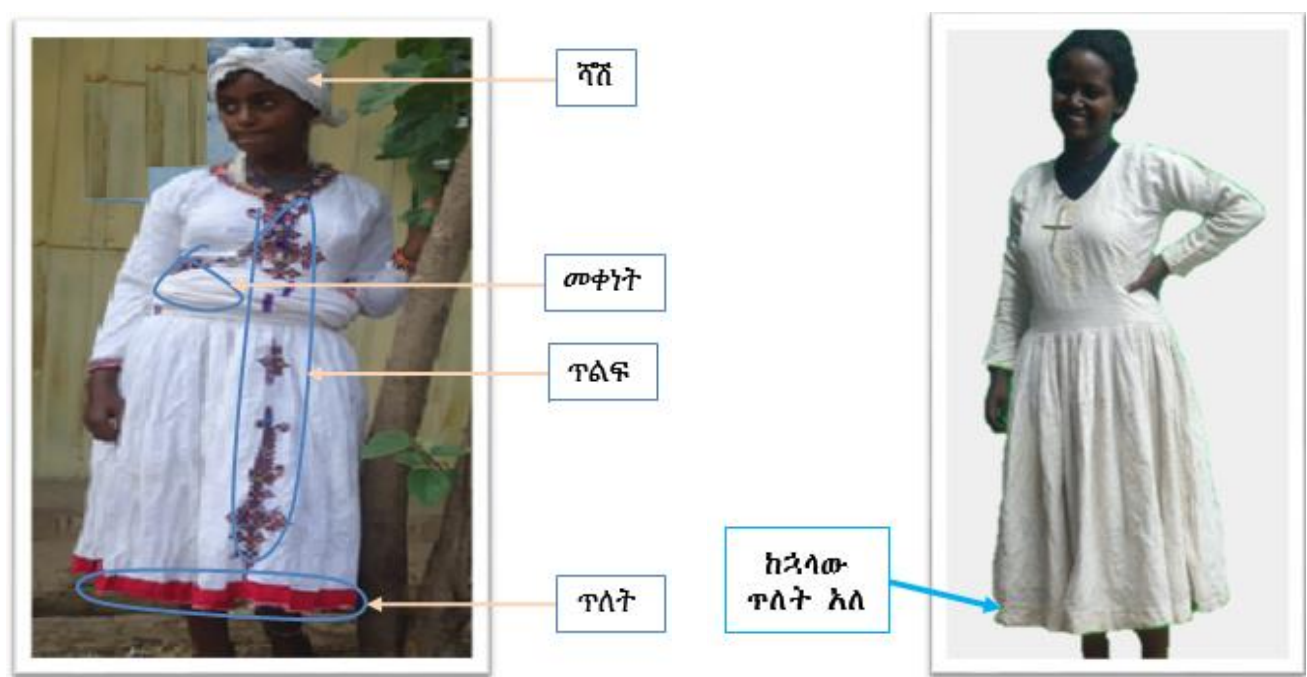
እንክርት፡ በምልከታው ወቅት እንደተስተዋለው በተጠኘው ማህበረሰብ ዘንድ በአብዛኛው የሚለበሰው እንክርት (ስዕል 2 እና 3) የሚዘጋጀው ከተፈተለ ጥጥና ደማቅ ቀለም ካለው ጥለት/ክር/ ነው። እንክርት ከአንገት አንስቶ እስከ ባዕት ድረስ የሴትን ልጅ ውጫዊ የአካል ክፍሎች የሚሸፍን የልብስ ዓይነት ነው። ከጥጥሚሰራው እንክርት ሁለት ዓይነት ገጽታ ሲኖረው የመጀመሪያው አይነት (ስዕል 2) ከታች ጫፉ ላይ ሙሉ በሙሉ ዙሪያውን በጥለት ያጌጠ ሲሆን ሁለተኛው (ስዕል 3) ደግሞ ጥለቱ ከታች ሁኖ ነገር ግን በፊት በኩል ምንም ዓይነት ጥለት ሳይኖረው ከኋላው ብቻ የሚደረግበት የእንክርት ልብስ አይነት ነው።

³ተጨማሪ የፎቶ ግራፍ መረጃዎችን በማቅረብና በመስጠት እንዲሁም ፎቶ ግራፎቹ በጥናታዊ ፅሁፉ ላይ እንዲሰፍሩ ስለፈቀዱልኝ የምስራቅ ጎጃም ዞን ባህልና ቴሪዝም መመሪያ ምስጋና ይገባቸዋል።

በእንክርቱ ጫፍ ላይ ያለው ጥለት ቀለም በለባሾቹ ምርጫማሚወሰን ነው። ለምን ደማቅ ቀለም ያለው ጥለት እንደሚመርጡ የጥናቱ ተሳታፊ በቃለ ምልልስ ሲናገሩ “ደማሴውን [ቀዩን] እና ጌሾ [አረንጓዴ] ዓይነቱን ጥለት የምንወደው አንድያ ሺጋና ደስ የሚል ስለሆነ ነው ሁለትያ ቆሊያችን [መንፈሳችን] ስለወደደው” ሲሉ ገልፀውታል (ወ/ሮ ሙሉነሽ፣ ጭምት፣ ቃለ-መጠይቅ፣ መስከረም 10/2008 ዓ.ም)። ይህን ሀሳብም ከቡድንተኮር 1ው ይይዳት የተገኘው ውጤት የሚያጠናክር ሆኖ ተገኝቷል።

የእንክርቱ ለባሽ ከፍተኛ የሆነ የኢኮኖሚ አቅም ካላት ፊት ለፊቱ በተለያዩ ቀለማት ባሸበረቁ ክሮች አስጠልፋ (ጥልፋት) ልትለብሰው ትችላለች። እንክርቱ በሚሰራበት ወቅት እንደለባሾቹ የእድሜ ደረጃ ከስሩ ከጥጥ የተሰራ ወይም ከቦብሊንግ የተሰራ ጨርቅ ይደረብበታል። ይህም እንክርቱን ከተለያዩ ቆሻሻዎች ለመከላከል እና የለባሽን የሰውነት ክፍል ከውጭ እይታ ለመከላከል እንደሆነ በቡድን ውይይቱ ተገልጿል። (ቡድን 2፣ ግራፊም፣ መስከረም 27/2008 ዓ.ም)። ይህን ሀሳብም ወ/ሮ ዝግጁ እና ሌሎች በቃለ መጠይቁ አጠናክረውታል።

እንክርቱን የሚለብሱ ሴቶች በአብዛኛው ከ50 ዓመት በታች የሆኑ ሲሆን ያገባች ሴት ከሆነች ከእንክርቱ ጋር ተመሳሳይ ጥለት ያለው ነጠላ ኩታ ከላይ እንደምትደርብበት፣ በወገቧ በደማቅ ቀለማት ያሸበረቀ መቀነት እንደምትታጠቅ እና በእራሱ ቅጂ ላይ ነጭ ወይም ጥቁር ቀለም ያለው ሻሽ እንደምታስር በቡድን ውይይት ወቅት ተብራርቷል። የእንክርቱ ለባሽባል ያላገባች ከሆነ ግን ምንም ዓይነት መቀነት ወይም ነጠላ አይደረብበትም። (ቡድን 3፣ አባሊባኖስ፣ ታህሳስ 3/ 2008 ዓ.ም)። ይህ ሀሳብም በምልከታው ወቅት አረጋግጧል።



ሰዕል 2 ጥለት ያለው እንክርት የለበሰች ሴት

ሰዕል 3 ከፊት ጥለት የሌለው እንክርት የለበሰች ሴት

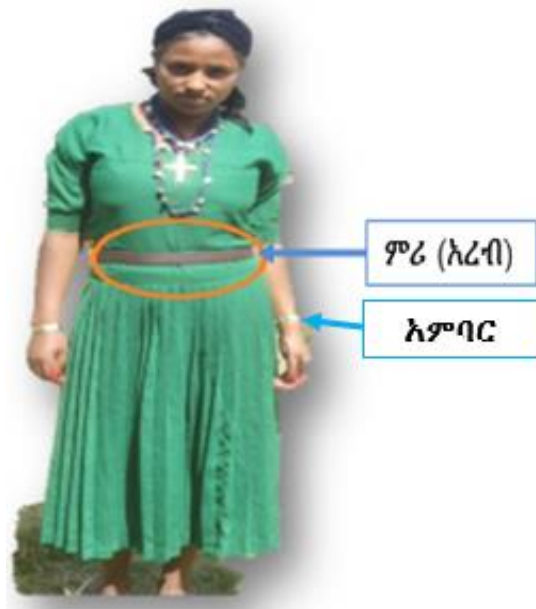
ሙሉ ሽንሽን፦ ይህ የልብስ አይነት (ስዕል 4) ከጥጥ የሚሰራ ሲሆን ልክ እንደ እንክርት ከአንገት ጀምሮ እስከ ባት ያለውን የሴቶች የሰውነት ክፍል የሚሸፍን ነው። ይህ ልብስ ከላይ እስከ ታች ሙሉ በሙሉ ተሸብሽቦ ከወገቡ ላይ በላስቲክ የተሰፋ እንደሆነ ተመልክቻለሁ። ልብሱ ሙሉ ሽንሽን የሚለውን ስያሜ ከዚህ እንዳገኘው በቃለ ምልልሱ ሽማ ሰራው አቶ አሻግራ (ወጀል፣ ጥቅምት 15/2008 ከታችኛው የልብሱ ጫፍ በኋላ በኩል በአብዛኛው ቀይ ጥለት ይደረግበታል። ይህን ልብስ የሚለብሱት በእድሜያቸው የገፉና መውለድ ያቆሙ ሴቶች እንደሆኑ በቡድን ውይይቱ ተብራርቷል (ቡድን 1፣ ቢቸና ደብር፣ የካቲት 13/2008 ዓ.ም)።

ሙሉ ሽንሽኑን በሚለብሱበት ሰዓት የልብሱን ዓይነት ወይም ተቀራራቢ ቀለም ያለው ጥለት ነጠላ ኩታ ከላይ ይደርቡበታል። የመፍተል አቅምካላቸው እራሳቸው ከፈተሉት ጥጥ የተሰራ መቀነት አቅም ከሌላቸው ደግሞ ተመሳሳይ መቀነት ከገብያ በመግዛት ይታጠቁበታል።

ሙሉ ሽንሽን የሚለበሰው በአብዛኛው በአመት በዓል ሲሆን የሚለብሱትም ቤተሰቡንና ከብቶችን ከክፋ መንፈስ ለመጠበቅ እንደሆነ ወ/ሮ ማናየሽ (ወጀል፣ ጥቅምት 15/2008 ዓ.ም) “በአመት ሻል ይህን የምናጠልቀው አመት ሻሉን ለመቋደስ [እና] ቡዙ ዛር እቤት [ይመጣል በሚል ነው]። ... ያን ግዜ በጨርቃችን ካልተደሰተ ወይ ሰው ወይ ከብት ይወጋል” ሲሉ ገልጸዋል። በተጠኘው ማህበረሰብ ዘንድ በበዓል ቀን በቡ በዓይን የማይታይ መንፈስ እቤት ይመጣል ተብሎ ስለሚታመን በአለባበሳችን እና በአመጋገባችን ካልተደሰተ ጉዳት ያደርሳል ተብሎ እንደሚፈራም በቡድን ተኮር ውይይቱ ተገልጿል።



ስዕል 4 ሙሉ ሽንሽን የለበሰች ሴት



ስዕል 5 ምሪና አምባር የታጠቀች ልጃገረድ

ጉርድ ሽንሽን፦ ይህ የልብስ አይነት ከጥጥ እና ደግሞ ቀለም ካለው ጥለት/ክር የሚሰራ ሲሆን ልክ እንደ ሙሉ ሽንሽን ከአንገት ጀምሮ እስከ ቁርጭምጭሚት ድረስ የሴትን ልጅ የአካል ክፍል የሚሸፍን ነው። በምልከታው ወቅት እንዳስተዋልሁት ይህ ልብስ ከላይ ሰፊና ልቅ ይሆንና ከታች ተሸብሽቦ ወገቡ ላይ በላስቲክ ተይዟል። ይህን የለበሱት በአብዛኛው በእድሜያቸው የገፉና መውለድ ያቆሙ ሴቶች

ናቸው፡፡ ልብሱን በለበሱበት ሰዓት የጉርድ ሽንሽን ዓይነት ወይም ተቀራራቢ ቀለም ያለው ጥለት ነጠላ ኩታ ከላይ ደርበውበታል፡፡ በተመሳሳይ ቀለም ያሸበረቀ መቀነት ታጥቀውበታል፡፡

ጉርድ ሽንሽን የሚለብሱት በአብዛኛው በአመት በዓል ወቅት ሲሆን የሚለብሱትም ከንደምልክ እንደ ሙሉ ሽንሽን ሁሉ ቤተሰቡንና ከብቶችን ከክፋ መንፈስ ለመጠበቅ እንደሆነ የቡድን አንዳንድ ተሳታፊዎች ገልጸውልኛል (ቡድን 1፣ ደባ፣ ህዳር 12/2008 ዓ.ም)። ከዚህ ጋር በተያያዘ “...ደማቅ ከረን [ቀለም] ያለው ጥለት የሚወደደው ክፉ ቆሌ [መንፈስ] አይኑ” እንዲያርፍ እንደሆነ በቃለ ምልልሱ ወቅት ወ/ሮ ዝግጁ የተባሉ ተሳታፊ ገልጸውልኛል (የርሞት፣ ህዳር 21/2008 ዓ.ም)።

እነዚህ ከላይ የተዘረዘሩት አልባሳትና ጌጣጌጥ በእነዚህ ሁኔታዎች የሚለበሱት በለባሾቹ ዘንድ ገና አላለቁም ወይም አላረጁም ተብለው እስከሚታሰቡበት ወቅት ነው፡፡ አልቀዋል ተብለው ከታሰቡ በኋላ ለገብያ ወይም ለአዘቦት⁵ ልብስ በመሆን እንደሚያገለግሉ በምልክታ እና በቃለ መጠይቅ አረጋግጫለሁ፡፡

አርባ ሽንሽን (ቀሚስ)፦ ይህ ልብስ (ስዕል 5 እና 6) ከላይ እንደተዘረዘሩት አልባሳት በተጠኘው ማህበረሰብ የሚሰራ ሳይሆን ብትን ጨርቁ ከገብያ ተገዝቶ በአካባቢው ባሉ ልብስ ሰፊዎች የሚሰፋ-እንደሆነ በቡድን ውይይቱ ወቅት ተጠቅሷል፡፡ በምልክታው ወቅት እንዳስተዋልሁት ከአንገት ጀምሮ እስከ ጉልበት ወይም ከባት ወረድ ብሎ ያለውን የሰውነት ክፍል ሙሉ በሙሉ የሚሸፍን ነው፡፡ ብዙ ጊዜ እስከ ጉልበት የሚለብሱት በቆላማው የአየር ንብረት አካባቢ ያሉ ሴቶች ሲሆኑ ከባት ወረድ ብሎ የሚለብሱ ደግሞ በደጋማው አካባቢ ያሉ ሴቶች ናቸው፡፡

አርባ ሽንሽን ከአንገት እስከታችኛው የጡት ክፍል ድረስ በተለያዩ የቁልፍ ‘ዲዛይን’ ሊያሸበርቅ ይችላል፡፡ በልብሱ ላይ ቁልፍ የሚደረድሩት በአብዛኛው ያላገቡ ወይም አግብተው የፈቱ ሴቶች ሲሆኑ ያገቡና የወለዱ ሴቶች ግን አይጠቀሙበትም፡፡ ለምን እነዚህ ብቻ እንደሚጠቀሙበትም የጥናቱ ተሳታፊ በቃለ ምልልሱ እንዲህ ስትል ገልጸልኛለች፡፡

“በጨርቁ ላይ [ለአቅመ ሄዋን] የደረሰች ወይም ሁለት ሶስቱ ወግ አይታ [ትዳር ይዛ] የፈታች ብቻ ናት የምትደረድረው፡፡ ያገባች ተሆነች በባሏ ላይ ምን አስባ ነው ተብላ ትነውራለች፡፡... ትዳር የሌላት ተሆነች ግን የቁንጅና መገለጫ ጭምር ስለሆነ ትዳር መፈለጓን ያመላክታል፡፡” (ወ/ሮ ንፁህ፣ የጣይቷ፣ ኅዳር 27/2008 ዓ.ም) ይህንን ሀሳብም የቡድን 5 ተሳታፊዎች አጠናክረውታል፡፡

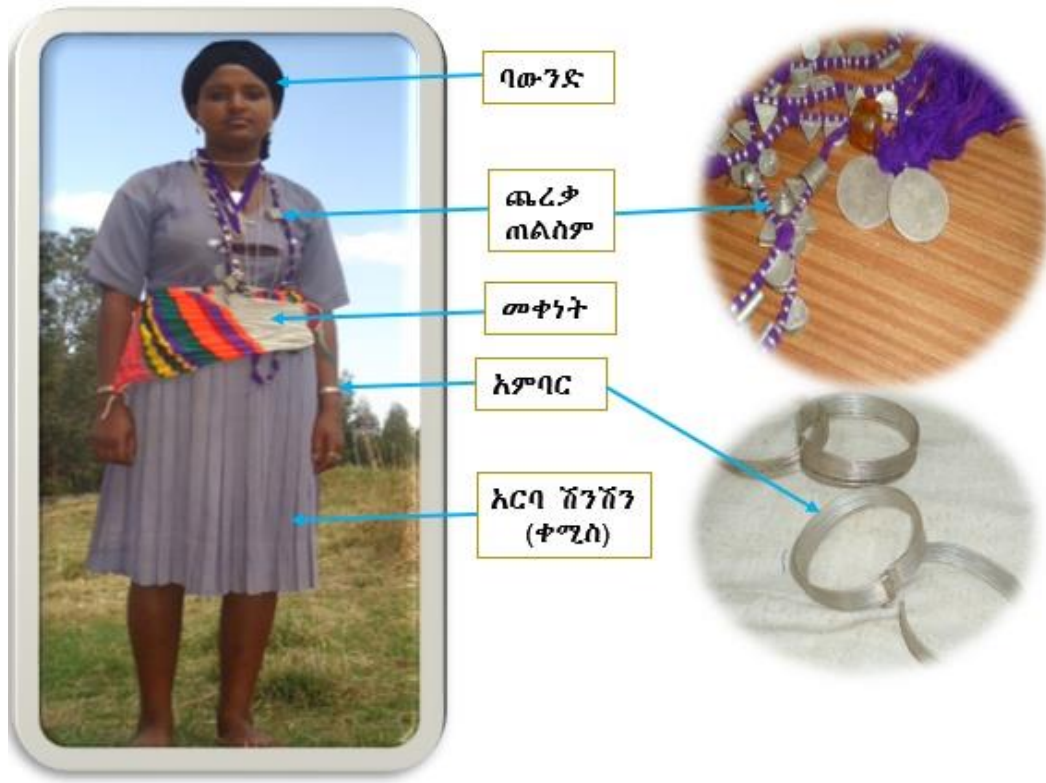
በምልክታው ወቅት እንዳስተዋልሁት አርባ ሽንሽን የምትለብሰሰ ሴት ያገባች ከሆነ ወገቧ ላይ መቀነት (ስዕል 6) ትታጠቃለች፡፡ በራሷ ላይ ሙሉ በሙሉ ጥቁር ቀለም ያለው አስር ሜትር የሚደርስ ጥቁር የራስ ማሰሪያ (ባውንድ ስዕል 6) ወይም በተለያዩ ቀለማት ያሸበረቀ ሻሽ ታስራለች፡፡ በሁለቱም እጇ ላይ አንባር ታደርጋለች፡፡ በአንገቷ ላይ የተለያዩ ጌጣጌዎችን (ለምሳሌ ጨረቃ ጠልሰም) ታደርጋለች፡፡ ብዙ ጊዜ የሚለበሰውም አዲስ ከሆነ አመት በዓል ቦታና በገብያ ቦታ ሲሆን የተወሰነ ማርጀት ከጀመረ በስራ ቦታ ይለበሳል፡፡

ያላገባች ከሆነች እና ለአቅመ አዳም የደረሰች ከሆነች ደግሞ ይህንን ልብስ በምትለብስበት ሰዓት ከቆዳ በቀጭኑ እንደ ቀበቶ የተዘጋጀ ምሪ (አረብ) (ስዕል 5) በወገቧ ታስራለች፡፡ ይህን ምሪ በወገቧ የምትስረውም ለአቅመ አዳም የደረሰች ልጃገረድ መሆኗንና የእሷን አዳም ካገኘችለማግባት የተዘጋጀች መሆኗን መግለጫ ነውሲሉ የቡድን ሶስት ተወያዮች አብራርተዋል (ቡድን 3፣ አባሊባኖስ፣ ታህሳስ 3/ 2008

⁵ በአዘቦት ማለት ሁልጊዜ የሚለውን ቃል ይተካል፡፡

ዓ.ም)። ይህን ሀሳብም ያሳብእና ሌሎች በቃለ መጠይቁ አጠናክረውታል። ከዚህ መረዳት የሚቻለው ምሪ በተጠኝው ማህበረሰብ ዘንድ ለመጀመሪያ ጊዜ ያለማግባትን እንዲሁም ለአቅመሂዋን መድረስን መግለጫ መሆኑን ነው።

ጋቢ፡ጋቢ (ስዕል 7 እና 8) ማለት ከጥጥ የሚሰራ ሲሆን የማህበረሰቡ አባላት የሆኑት ሽማግሌዎች በተለያዩ ማህበራዊ ግንኙነቶች ማለትም እርቅ ቦታ፣ ሰርግ ቦታ፣ ቤተእምነት እና ሃዘን ቦታ ሲሄዱ የሚለብሱት ነው። ለምን ይህ ልብስ በእነዚህ አውዶች እንደሚለበስ አቶ በላይ በቃለ ምልልሱ እንዲህ ሲሉ ገልፀውታል። “በደንባችን በደስታም ሆነ በመከራ ቦታላይሲሄድ አንድ ሽማግሌ ጋቢ ካለበስ ወይ ሽማግሌ አይል የምን መቅለል ነው ይባላል። ወይ ደግሞ የሰውን ደስታና መከራምን ቢንቅ ነው ተብሎ ይነወራል” (አቶ በላይ፣ እንደሸኝት፣ ጥር 14/2008 ዓ.ም)። በተጠኝው ማህበረሰብ ዘንድ ነጭ ልብስ የለባሹንም ሆነ የተገኘበትን አውድ ክብር መግለጫ ተደርጎ ይወሰዳል።



ስዕል 6 በዓውንድ፣ በመቀነት፣ በጨረቃ ጠልሰምና በአምባር ያጌጠች እና አርባ ሽንሽን የለበሰች ሴት

መብሩቅ (ወንጨሬ)፡ መብሩቅ የተባለው የልብስ አይነት (ስዕል 7) ከወገብ በታች የሚለበስ ሲሆን የሚዘጋጀው በፋብሪካ ተሰርቶ ከሱቅ ከሚገዛ ብትን ጨርቅ ነው። ብትን ጨርቁን ልብስ ሰፊዎች ዘንድ ይዞ በመሄድ በለባሹ ልኬት መሰረት ይሰፋል። በምልከታዩ እንዳስተዋልሁት መብሩቅ ከወገብ በታች እስከ ጉልበት ድረስ ሰፊ ሲሆን ከጉልበት ጀምሮ እስከ ቁርጭምጭሚት ያለው ደግሞ በእግር ውፍረት ልክ ተጣብቆ የሚዘጋጀ ነው።

መብሩቅ የሚለበሰው አዛውንት ሽማግሌዎች ወደ እርቅ፣ ቤተ እመነት፣ እና ማህበር ሲሄድ ነው። በቡድን ውይይቱ እንደተባራራው አንድ ሰው መብሩቅ ለብሶ ከታየ በአካባቢው ሽማግሌ እና የተከበር ሰው መሆኑን ያመላክታል (ቡድን 5፣ የቀጋን የካቲት 14/2008 ዓ.ም)። ስለሆነም ወንጨሬ የማህበራዊ ክብር እና የእድሜ መገለጫ እንደሆነ መረዳት ይቻላል።

የጉልበት ሱሪ፡ የጉልበት ሱሪ (ስዕል 8) ልክ እንደመብሩቅ ሁሉ ከወገብ በታች የሚለበስ፣ ከሱቅ በሚገዛ ብትን ጨርቅ የሚዘጋጅ እና ማህበራዊ ከበሬታን ለማግኘት በአዛውንት ሽማግሌዎች የሚለበስ ሲሆን አሰራሩ ከመብሩቅ በተወሰነ መንገድ ይለያል። የጉልበት ሱሪ ከወገብ ጀምሮ እስከ ጉልበት ያለው ሰፊ ሲሆን ከጉልበት ጀምሮ እስከ ባት ያለው ስፋት በለባሹ ባት ውፍረት ልክ የሚዘጋጅ የልብስ አይነት እንደሆነ በምልክታዊ ማረጋገጥ ትያለሁ። ለባሾችም በቃለ መጠይቁ ገልፀውልኛል።



ጋቢ

ወንጨሬ/
መብሩቅ



ጋቢ

የጉልበት
ሱሪ

ስዕል 7 ጋቢ እና ወንጨሬ (መብሩቅ) የለበሰ ሰው

ስዕል 8 የጉልበት ሱሪና ጋቢ የለበሰ ሰው

ፎጣብምልክታው ወቅት እንዳስተዋልሁት ፎጣ ማለት ከክር የሚሰራ ሽማግሌዎች ወይም ሙሽሮች ራሳቸው ላይ የሚያደርጉት የልብስ ዓይነት ነው። ሙሽራና ሽማግሌ እራሳቸው ላይ የሚጠመጥሙት የክብር መገለጫ እንደሆነ የጥናቱ ተሳታፊ በቃለ ምልልሱ ገልፀውልኛል (አቶ ሞገስ፣ ደባ፣ ጥር 12/2008 ዓ.ም)።

በተጠኘው ማህበረሰብ ውስጥ የሚገኝ ወንድ ሙሽራ እራሱ ላይ ከሚጠመጥመው ፎጣ በተጨማሪ ለአርባ ቀን ያህል በእጁ የብረት ከዘራ ይይዛል። ይህን የብረት ከዘራ በእጃቸው የሚይዙት ብረቱ ሙሽራውን ከክፉ መንፈስ ይጠብቀዋል ተብሎ ስለሚታመን እንደሆነ አቶ አባተ(ስናን፣የካቲት 15/2008 ዓ.ም) እና አቶ ይበልጣል(ቁይ፣የካቲት 14/2008 ዓ.ም) የተባሉ ቃለ መጠይቅ ተደራጊ ገልጸዋል።

ይህን የፎጣ ጥምጣም ብዙ ጊዜ የሚጠቀሙት በደጋማ የአየር ንብረት አካባቢ(ለምሳሌ፦ ስናን ወረዳ) የሚኖሩ ሽማግሌዎች እና ሙሽሮች ናቸው። በአጠቃላይ ይህ በራስ ላይ የሚጠመጠም ፎጣ የሰዎችን የህይወት ምዕራፍ እና የለባሾችን ከወዴትነት መግለጫ ሁኖ ሊያገለግል ይችላል።

3.2. ለህላዊጌጣጌጦች

በተጠኝው ማህበረሰብ ዘንድ በርከት ያሉ ጌጣጌጦች (በተለይ የሴቶች) አሉ። እነዚህ ጌጦች እንደየአገልግሎታቸው የተለያዩ ሲሆኑ በዚህ ንዑስ ክፍል የሚተነተኑት ጌጣጌጦችም ትዕምርታዊ ፋይዳቸው የጎሉትን ብቻ በመውሰድ ነው። እነዚህ ጌጦችም እንደሚደረጉበት የአካል ክፍል የራስ፣ የአንገት፣ የእጅ እና የእግር ጌጣጌጦች በማለት ተተንትነዋል።

3.2.1. የራስጌጦች

በተጠኝው ማህበረሰብ ዘንድ በራስቅል ላይ የሚደረጉ የተለያዩ ጌጦች ያሉ ሲሆን ከእነዚህ ውስጥ ባውንድ⁶ ተጠቃሽነው።

ባውንድ፦ በምልከታው ወቅት እንዳስተዋልሁት ባውንድ (ስዕል 6) ከብትን ጨርቅ የሚዘጋጅና ያገቡ ሴቶች በራሳቸው ላይ የሚጠመጥሙት ነው። አንድ ሴት በራሷ ላይ የምትጠመጥመው ባውንድ ርዝመቱ ከአራት እስከ አስር ሜትር ሊደርስ ይችላል። የሜትሩን ብዛት የሚወስነው የጠምጣሚዋ የኢኮኖሚ አቅም ነው። ጠምጣሚዋ የተሻለ ኢኮኖሚ ካለው ቤተሰብ የተወለደች ወይም የተጋባች ከሆነች በርከት ያለ ሜትር ያለው ባውንድ ታስራለች። በተለይ አግብታ የፈታችና ሌላ ባል ለማግባት የተዘጋጀች ሴት ከሆነች በርከት ያለ ሜትር ያለው ጥቁር ባውንድ በማሰር ሌላ ባል ለማግባት ዝግጁ መሆኗን ለማህበረሰቡ ታውጅባታለች ሲሉ ገልፀዋል። (ቡድን 4፣ ጭምት፣ ጥር 7/2008 ዓ.ም)

በሌላ በኩል መጀመሪያቸውን ያላገቡ ሴቶች ግን ምንም አይነት ባውንድ የማይጠመጥሙ ሲሆን አግብተው በትዳር የሚኖሩና ልጅ የወለዱት ግን ርዝመቱ አጠር ያለ ከአራት እስከ አምስት ሜትር ብቻ ሊጠመጥሙ ይችላሉ። ምክንያቱም በትዳር ያሉና ልጅ የወለዱ ሴቶች ከአምስት ሜትር በላይ ቢጠመጥሙ በትዳራቸው ላይ መደረብ ፈልገዋል ተብሎ በማህበረሰቡ ስለሚተኩና በቤቱ አባወራ ላይ የቅናት መንፈስ ያሳድራል ተብሎ ስለሚታሰብ እንደሆነ የጥናቱ ተሳታፊ በቃለ-መጠይቁ ወቅት ጠቁመዋል። (አቶ አምባቸው፣ ታህሳስ 25/2008 ዓ.ም) እንዲሁም በቡድን 4 ተሳታፊዎች ሀሳቡ ተደግፏል።

በመሆኑም በተጠኝው ማህበረሰብ ብዙ ሜትር ያለው ባውንድ መጠምጠም ጋለሞታ(አግብታ የፈታችና ለማግባት የተዘጋጀች) መሆኗን የሚገልፅ ሲሆንትን ሽ ሜትር የጠመጠመች ደግሞ በትዳር የምትኖርና የወለደች መሆኗን ሲገልፅ፣ ምንም ባውንድ አለመጠምጠም ደግሞ ገና ምሪ ያልፈታች (ለመጀመሪያ ጊዜ ያላገባች) ለወደፊት ግን ማግባት የምትችል መሆኗን ከላይ ከቀረበው ትንታኔ መረዳት ይቻላል።

3.2.2. የአንገትጌጦች

በምልከታው ወቅት እንዳስተዋልሁት በተጠኝው ማህበረሰብ ዘንድ የሚደረጉ የአንገት ጌጦች (ስዕል 9 እስከ 11) በአብዛኛው ከብር የሚሰሩ ሲሆን አንዳንዶቹ ከዶቃ (ጨሌነገሮች) የሚሰሩ ሊሆኑ ይችላሉ። እንደየተሰሩበት እቃ የተለያየ ክብር ወይም ግምት ጌጦችን ላደረጉ ሴቶች ይሰጣቸዋል። የአንገትጌጦች ብዙዎቹ ከእናትወደ ልጅ ተላልፈው ወይም በስጦታ መልክክ ትውልድ ወደ ትውልድ የተላለፉ እንደሆኑ ወይዘሮ ያሳብናወይዘሮ ታዳምቅ (የቦ፣ ታህሳስ 23/2008 ዓ.ም) ገልፀዋል። ከእነዚህ የአንገት ጌጦች መካከልም ዋና ዋናዎቹ መንታ ድሪ፣ ድርብ ሽርብና ጥምዝ ድሪ ይገኙበታል።

⁶ባውንድ ምንም እንኳን የልብስ ዘር ቢሆንም በሴቶች ራስ ላይ ለጌጥ አገልግሎት ስለሚውል ለትንተና እንዲመች በማሰብ በጌጣጌጦችም ድብወስጥተካቷል።

መንታ ድሪ፦ይህየአንገትጌጥ(ስዕል 9) በአብዛኛውሙሉ በሙሉ ከብር የሚሰራ ሲሆንበአንድ ጊዜ በአንገት ላይ የሚደረገው እስከ ስድስት እጥፍ ወይም ዙር እንደሚደርስ ተመልክቻለሁ፡፡ በዚህ መንታ ድሪ ላይ 'ጎለጎታ' የሚባል አራት መዓዘን የሆነ የድሪውን ጫፎች የሚያገናኝ ማጫወቻ አለው፡፡

በተጠኝው ማህበረሰብ ዘንድ መንታ ድሪ ትልቅ ቦታ ከሚሰጣቸው የአንገት ጌጥ አይነቶች አንዱ ነው፡፡በመሆኑም ይህ የአንገት ጌጥ ውድ ከሚባሉት ውስጥ እንደሚመደብ በቃለ ምልልሱ ተጠቁሟል (ሙሉጌታ፣ ሊቀበሃና፣ ታህሳስ 13/2008 ዓ.ም)፡፡ ይህን የአንገት ጌጥ የሚያደርጉት ብዙ ጊዜ በእድሜ የገፉ ባለፀጋ እማወራዎች የአባት አምላክ ያለባቸው እናቶች በበዓላት ቀናት እና አራስ ሴቶች ናቸው፡፡ ይህን የሚያደርጉበት ምክንያት ቃለ መጠይቅ የተደረገላቸው የጥናቱ ተሳታፊዎች እንዲህ ሲሉ ገልፀውታል፡፡

የአባት አቴቴ [አምላክ] ኑሮባቸው በባላት ቀን የብር መንታ ድሪ ካላደረጉ ያባት አቴቴው [አምላኩ] ተቆጥቶ ልጆች ወይም ከብቱ ላይ ጉዳት ያደርሳል እንላለን፡፡ ከበርቲዎች ደ'ሞ መንታ ድሪ ካልገዙና ካላደረጉ [በአካባቢው ማህበረሰብ ዘንድ] ገብጋቢ [ስግብግብ]ይባላሉ፡፡ ... አራሷም መንታ ድሪ የምታረገው የማሪያም አራስ ስትሆን ከርኩስ መንፈስ ስለሚጠብቃት ነው፡፡

(ወ/ሮ ስለናት፣ ዝግባ፣ የካቲት 03/2008 ዓ.ም)፡፡

መንታ ድሪ በተጠኝው ማህበረሰብ ዘንድ ከጌጥነት ባለፈ የሃብት መገለጫ፣ የቤቱን የአባት አምላክ ማስደሰቻ እና ከክፉ መንፈስ መጠበቂያ ተደርጎ እንደሚታሰብ መረዳት ይቻላል፡፡



ስዕል 9 መንታ ድሪ



ስዕል 10 ድርብ ሽርብ ድሪ

ድርብ ሽርብ ድሪ፦ ድርብ ሽርብ ድሪ (ስዕል 10)የአንገት ጌጥ የሚሰራው ከብርና ከክር ሲሆን ይህየአንገትጌጥመንታ ድሪ ቀጥሎ ተፈላጊና ውድ ጌጥ እንደሆነ የጥናቱ ተሳታፊዎች ገልፀውልኛል፡፡ ከዚህ ድሪ ጋር የሚሸረበው ክር ብዙ ጊዜ ወይን ጠጅ ቀለም ያለው እንደሆነ ተመልክቻለሁ፡፡ ወይን ጠጅ ቀለም ያለው ክር በማህበረሰቡ ዘንድ ለጌጥነት እንደሚመረጠየቡድን ተወያዮች ገልጸዋል (ቡድን 2፣ ግራራም፣ መስከረም 10/2008 ዓ.ም)፡፡

ድርብ ሽርብ ድሪ በአንገታቸው ለጌጥነት የሚጠቀሙት ሙሽራ የሆኑት ሴቶች በሙሽርነታቸው ወቅት እና አራስ ሴት የወለደችውን ወይም የወለደችትን ልጅ ክርስትና እስከምታስነሳ ድረስ ነው፡፡ ሙሽሪትም ሆነች አራሷ ለራሳቸውይህ ጌጥ ባይኖራቸው ከሌላ ሰው ተወሰውያደርጉታል ምክንያቱም የክብር መገለጫና ሙሽሪትን በሙሽርነቷ ወቅት አራሷንም እንዲሁ በአራስነቷ እሷንና ህፃኗን/ኑን ከሚተናኮል ክፉ

መንፈስ ይከላከልላቸዋል ተብሎ እንደሚታመን በቃለ ምልልሱ ወቅት ተገልጿል (ወ/ሮ ወሰኔ፣ ደሳ፣ ታህሳስ 21/2008 ዓ.ም)። የቡድን 3 ተወያዮችም ሀሳቡን አጠናክረውታል።

በመሆኑም ድርብ ሽርብ ድሪ ውበትን ከማገናፀፉ በተጨማሪ የማህበረሰቡን የህይወት ምዕራፍ ሽግግር አመልካች ሊሆን ይችላል።

ጥምዝ ድሪ፡-ይህ የአንገት ጌጥ (ስዕል 11) ከብርና ከቆርቆሮ የሚሰራ ሲሆን ነጠላው ድሪ ከክር ጋር ተጠምዞ የሚደረግ ነው። በተጠመዘዘው ክርና ድሪ ላይ ከመዳብ የተሰራ ቀለበት እንደሚደረግበት አስተውያለሁ። ይህን ጌጥ የምታደርገው ሙሽሪት በሙሽርናዋ ወቅት ሲሆን የተደረገው ከቆርቆሮ የተሰራ ከሆነ ለጌጥነት መሆኑን የሚያመላክት እንደሆነና ከብር የተሰራ ከሆነ ደግሞ ከጌጥነት ባለፈ ብርና መዳብ ከክፉ መንፈስ ይጠብቃል ተብሎ እንደሚታመን በቡድን ውይይቱ ተገልጿል (ቡድን 1፣ ቢቸና ደብር፣ የካቲት 13/2008 ዓ.ም)። በተጠኝው ማህበረሰብ ዘንድ ብርና መዳብ ከክፉ መንፈስ ይጠብቃል ተብሎ እንደሚታመን መረዳት ይቻላል።

3.2.3. የእጅ ጌጥ

የእጅ ጌጥ ጌጥ የሚባሉት የማህበረሰቡ አባላት በክንዱና በእጣቱ ላይ ለመዋቢያነት የሚያደርጋቸው ሲሆኑ በዚህ ጥናትም በማህበረሰቡ ዘንድ ትዕምርታዊ ፋይዳው ጎልቶ የሚታየው አንባር የእጅ ጌጥ ላይ ትንታኔ ተደርጎበታል።

አምባር፡- ይህ የእጅ ጌጥ (ስዕል 5 እና 6) ከብር የሚሰራና ክንድ ላይ የሚደረግ ሲሆን ሙሽራ፣ ባለሃብት እና ባለአባት አምላክ⁷ ወይም ባለአቴ ሴቶች የሚያደርጉት ነው። እነዚህ ሴቶች ብቻ የሚያደርጉበትን ምክንያት ወ/ሮ ቦሴ (ቀቢ፣ ጥር 03/2008 ዓ.ም) እንዲህ ገልፀውታል።

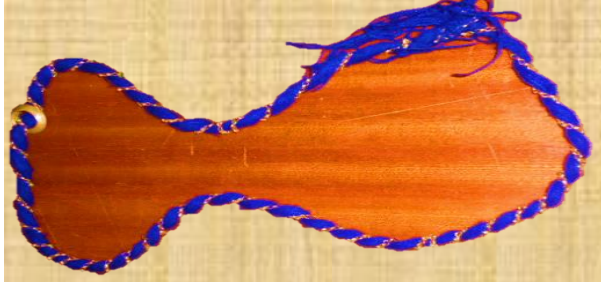
ብር አምባር ለጌጥ ነው እሚደረግ። ... [ብር አምባር] የሚያረጉ ሙሽሮች ጭምር ናቸው። ሙሽራይትን [በሙሽርነቷ ወቅት] ከሚተናኮላት ምናምን [ክፉ መንፈስ] እንዲጠብቃት ነው። ... [ብር አምባር] በሰኔና በመስከረም የሚያደርጉት ደግሞ አቴቴው እንዳይቆጣት ሊደረግ ይችላል። ከበርቲ ተኮነ ደግሞ ሃብታቸውን ማሳያ ብር አምባር ሊያረጉ ይችላሉ። ወ/ሮ ቦሴ (ቀቢ፣ ጥር 03/2008 ዓ.ም)

በአጠቃላይ ይህ የእጅ ጌጥ ከጌጥነቱ ባለፈ የተገልጋዩን ማንነት ምንነት ሊያሳይ ይችላል።

3.2.4. የእግር ጌጥ

አልቦ፡-ይህ የጌጥ አይነት (ስዕል 12) እግር ላይ የሚደረግ ሲሆን ሙሽሮች እንዳ አላቸው የኢኮኖሚ አቅም ከብር ወይም ከቆርቆሮ የተሰራ አልቦ ያደርጋሉ። አልቦ ጥቃቅን ክብ ብሮችን ወይም ቆርቆሮዎችን በጠንካራ ክር በማያያዝ የሚሰራ እንደሆነ አስተውያለሁ። ሴት ሙሽሮች ውበታቸውን ለማግኘት እንደሚጠቀሙበት የቡድን ተወያዮች ገልጸዋል (ቡድን 3፣ አባሊባኖስ፣ ታህሳስ 3/2008 ዓ.ም)። ከዚህ በተጨማሪ የአባት አምላክ (አቴቴ) ያለባቸው ሴቶች ደግሞ አባት አምላካቸውን ያስደስተዋል ብለው ስለሚያምኑ በባላት ቀን ያጌጡበታል ሲሉ በቃለ ምልልሱ የጥናቱ ተሳታፊዎች ገልፀውልኛል (ደጊቱ፣ አምቡላም፣ ጥር 30/2008 ዓ.ም)። በተጠኝው ማህበረሰብ ዘንድ አልቦ የህይወት ምዕራፍ ሽግግርን ማሳያና ከክፉ መንፈስ መከላከያ ተደርጎ እንደሚታመን መረዳት ይቻላል።

⁷ ባላባት አምላክ ማለት ከቀደምት ወላጆቻቸው ተወራርሶ የመጣ ቤተሰቡን ከመጥፎ ነገር የሚጠብቅ መንፈስ ማለት ሊሆን ይችላል።



ስዕል 11ጥምዝ ድሪ



ስዕል 12አልቦ

3.3. የባህላዊ አልባሳት እና ጌጣጌጥ ማህበራዊ ፋይዳ

በዚህ ክፍል ከላይ የተተነተኑ ባህላዊ አልባሳትና ጌጣጌጥ ያሏቸው ትዕምርታዊ ፋይዳዎች ይዳሰሳሉ፡፡ የአልባሳቱንና ጌጣጌጡን ማህበራዊ ፋይዳዎች በማህበረሰቡ ዘንድ ከሚያስተላልፋት ማህበራዊ መልዕክት በመነሳት በአራት ዋና ዋና ዘርፎች ጠቅልሎ መመልከት የሚቻል ሲሆን እነዚህም፡- (1) የህይወት ምዕራፍን መግለፅ፤ (2) እድሜን ማመልከት፤ (3) ማህበራዊ የኑሮደረጃን ማሳወቅ፤ (4) ክፋ መንፈስን መከላከልና (5) ማህበራዊ ሁኔታዎችን ማሳወቅ ናቸው፡፡ እነዚህ ማህበራዊ ፋይዳዎች ከዚህ በፊት ከተጠኑ ጥናቶች ጋር በማቆራኘት እንደሚከተለው ቀርቦዋል፡፡

3.3.1. የህይወት ምዕራፍን መግለፅ

የተጠኝው ማህበረሰብ አልባሳት እና ጌጣጌጥ የማህበረሰቡን የህይወት ምዕራፍ በጉልህ የሚያሳዩ ጉዳዮች ናቸው፡፡ ለምሳሌ፡- “ምሪ/አረብ” (ስዕል 5) በመባል የሚታወቀው የወገብ ጌጥ በወገባቸው የሚያስሩ ሴቶች ለአቅመ ሄዋን የደረሱና ባል ለማግባት ዝግጁ የሆኑ ልጃገረዶች ናቸው፡፡ ስለዚህ በማህበረሰቡ ምሪ ያሰረች ሴት ባል ካለማግባት ወደ ማግባት የህይወት ምዕራፍ ለመሸጋገር ዝግጁ መሆኗን ሲገልፅ ከተፈታ ደግሞ ካለማግባት ወይም ከኮረዳነት (Puberty) ወደ ትዳር ህይወት መሸጋገሯን ያሳያል፡፡

“አልቦ” በመባል የሚታወቀው የሴቶች የእግር ጌጥ ደግሞ አንዲት ሴት ከብቸኝነት ህይወት ወደ ትዳር ህይወት መሸጋገሯን እና ለእናትነት መብቃቷን ያመለክታል፡፡ በወገባቸው ላይ የሚታጠቁት መቀነት ደግሞ እንደ አስተጣጠቁ የሴቶችን የህይወት ምዕራፍ ይጠቁማል፡፡ የታጠቀችውን መቀነት ጎፍላ በፊቷ በኩል ጨርሳ ሳትቋጥር የታጠቀች ሴት አግብታ የፈታችና ሌላ ባል ለማግባት የተዘጋጀች (ጋለሞታ) መሆኗን ሲጠቁም መቀነቱን ጨርሳ የታጠቀች ሴት ደግሞ ያገባችና በትዳር የምትኖር መሆኗን በማህበረሰቡ ዘንድ አመለካከት ነው፡፡

ድርብ ሽርብ ድሪና ጥምዝ ድሪ በአንገቷ ላይ ያደረገች ወጣት ሴት ደግሞ ሙሽራ መሆኗንና ወደ አቅመ ትዳር መሸጋገሯን ለማህበረሰቡ ሲጠቁም አግብታ እነዚህን ጌጦች ያደረገች ሴት ደግሞ ወደ እናትነት የሕይወት ምዕራፍ መሸጋገሯን ይጠቁማል፡፡

በተጨማሪም፡፡ እራሱ ላይ ጠምጥሞ የብረት ከዘራ በእጁ የያዘ ወጣት ወንድ ካለማግባት ወደ ማግባት መሸጋገሩን ያመለክታል፡፡

3.3.2. እድሜን ማመልከት

ጥናቱ እንዳመለከተው የተጠኝው ማህበረሰብ ባህላዊ አልባሳት እና ጌጣጌጥ የማህበረሰቡን አልባሳት እድሜ የሚያመለክት ሊሆን ይችላል፡፡ በተመሳሳይ መልኩ Clark (1986) አልባሳት እና ጌጣጌጥ ባላቸው

ትዕምርታዊ ፋይዳ የሚጠቀምባቸውን ግለሰብ የእድሜ መጠን ይገልጻል ሲሉ አብራርቶታል። ለምሳሌ፡- በዚህ ጥናት “ጋቢ” የተባለውን ልብስ የሚለብስ ሽማግሌ ሰው እንደሆነ ተጠኝዎች ገልጸዋል።

ሌሎች እንድሚን አመላካች የሆኑ ልብሶች “እንክርት” (እድሜያቸው ከ50 ዓመት በታች የሆኑ የሚለብሱት) እና “ሙሉ ሽንሽን” (በእድሜ የገፉ ሴቶች የሚለብሱት) በመባል የሚታወቁት ናቸው። ለምሳሌ፡- “ሙሉ ሽንሽን” ልብስ እድሜዋ ከ45 በላይ የሆነች ሴት የምትለብሰው ሲሆን ከዚህ በኋላ መውለድ አለመቻሏን (ማረጢን) የሚያሳይ ነው።

እንደአልባሳቱ ሁለጌጣጌጦችም የእድሜ እርከንን ማመልከት ይችላሉ። ከስምንት እስከ አስር ሜትር የሚደርስ ባውንድ የእራስ ጌጥ የጠመጠመች ሴት የወጣትነት እድሜ አመላካች ነው። ይህን ጌጥ የሚያደርጉ ሴቶች አግብተው የፈቱና ሌላ ለማግባት የሚፈልጉ (ጋለሞታ) ሴቶችን ጠቋሚነቱ በማህበረሰቡ ዘንድ የጎላ ሚና ይጫወታል።

3.3.3. ማህበራዊ የኑሮ ደረጃን ማሳየት

የተጠኝው ማህበረሰብ ባህላዊ አልባሳት እና ጌጣጌጥ ማህበራዊ የኑሮ ደረጃን የማሳየት አቅም ሊኖራቸው ይችላል። ይህ ሚናም በተለይ በጌጣጌጦች ላይ የጎላ ነው። የጌጣጌጦች ብዛትና ጥራት ማህበራዊ የኑሮ ደረጃ (ለምሳሌ፡- በማህበረሰብ ውስጥ ያለውን ማህበራዊ ልዩነት ማለትም የሃብትና የስልጣን ልዩነቶች) መግለጫ ትዕምርቶች ናቸው።

ማህበራዊ ደረጃን ከሚያሳዩ ጌጣጌጦች መካከል “መንታ ድሪ” እና “አምባር” የእጅ ጌጦች የተወሰኑት ናቸው። እነዚህ ጌጣጌጦች ዋጋቸው ውድ በመሆኑ የሚያጌጡባቸው ሰዎች በአካባቢው የባለስልጣን ሚስቶች እንዲሁም በኢኮኖሚ ደረጃቸው ከአካባቢው ሴቶች የተሻሉት እንደሆኑ መረዳት ይቻላል። ስለሆነም ጌጣጌጡ የማህበረሰቡን ወይም የግለሰቡን ማህበራዊ ደረጃና የኢኮኖሚ አቅም ሊገልፁ ይችላሉ። በተመሳሳይ አፀደ (2003)፣ Clark (1986) ጌጣጌጦች ባላቸው ትዕምርታዊ ፋይዳ የሚጠቀምባቸውን ግለሰብ ወይም ማህበረሰብ ማንነት፣ የኑሮደረጃ ይገልጻል ሲሉ አብራርተውታል።

3.3.4. ክፉ መንፈስን መከላከል

በጥናቱ ተሳታፊ የማህበረሰቡ አባላት መጥፎ ነገሮች እንዳይገጥሟቸውና የወደፊት ኑሯቸው የተስተካከለ እንዲሆን የተለያዩ አልባሳትንና ጌጣጌጦችን በመጠቀም ክፉ ብለው የሚያምኑትን መንፈስ ለመከላከል ይሞክራሉ። በተመሳሳይ Gracia (2008) አልባሳት በአንዳንድ ማህበረሰቦች ዘንድ ከተለያዩ ክፉ መናፍስት የመከላከል ተግባር እንዳላቸው ገልጿታል። ለምሳሌ፡- የዚህ ጥናት ተሳታፊዎች “ሙሉ ሽንሽን”(ሰዕል 4) የተባለው ባለሰፊ ቀይ ጥለት ልብስ የሚለበሰው ለባሻንና የለባሻን ልጆች ከክፉ መንፈስ ይጠብቃል ተብሎ ስለሚታመን ነው።

ከአልባሳቱ በተጨማሪም መንታ ድሪ፣ ድርብ ሽርብ፣ ጨረቃ ጠልሰም እና ጥምዝ ድሪ የአንገት ጌጦች፣ አምባር የእጅ ጌጥ እና አልቦ የእግር ጌጥ ከሌሎች ፋይዳዎቹና ትዕምርቶቹ በተጨማሪ የአጊያጫን ቤተሰብና ከብቶችከክፉ መንፈስ ለመከላከል ሲባል ነው።

ስለሆነም በተጠኝው ማህበረሰቡ ዘንድ ነጭና ቀይ ቀለም ያላቸው አልባሳት እና ከብርና መዳብ የተሰሩ ጌጣጌጦች በባህሉ መሰረት ለክፉ መንፈስ መከላከያና ማባሪያም ሆነው የሚገለግሉ መሆኑ ቢያንስ ሥነ-ልቦናዊ ደህንነትንና ማህበራዊ ትስስርን የማጎልበት ፋይዳ ሊኖራቸው እንደሚችል መገንዘብ ይቻላል።

ጉርድ ሽንሽን፣ አርባ ሽንሽን፣ ጋቢ፣ ወንጨሬ፣ የጉልበት ሱሪ እና ፎጣ) እና ጌጣጌጦችን (ባውንድ፣ መንታ ድሪ፣ ድርብ ሽርብ ድሪ፣ ጥምዝ ድሪ፣ አምባር እና አልቦ) በተለያዩ አውዶች እየተጠቀመባቸው እንደሆነ በዚህ ጥናት ተመላክቷል። እነዚህ አልባሳት ከጾታ አኳያ ሲታዩ ሴቶች የሚለብሱት አልባሳት በአብዛኛው ማለት ይቻላል አንድ ወጥ ከላይኛው እስከታችኛው የአካል ክፍል የሚሸፍኑ ሲሆኑ ወንዶች የሚለብሱት ደግሞ በአብዛኛው ከወገብ በላይና ከወገብ በታች በሁለት የተከፋፈሉ እንደሆነ መገንዘብ ይቻላል። ሁለተኛው የጥናቱ ጥያቄ “የምስራቅ ጎጃም ማህበረሰብ በባህላዊ አልባሳቱና ጌጣጌጦች እንዴት ራሱን ይገልጻል?” የሚል ነው። በዚህ ጥናት እንደተመላከተው የዞኑ ማህበረሰብ ያለውን ማህበራዊ፣ መንፈሳዊ እና ምጣኔያዊ ገጽታዎች በአልባሳቱና በጌጣጌጦች ይገልጻል። እንዲሁም የማህበረሰቡ ባህላዊ አልባሳት ጌጣጌጥ ከፍተኛ ማህበራዊ ትስስር እንደሚፈጥሩና በማህበረሰቡና በለባሹ መካከል ቃላዊ ባልሆነ መንገድ ተግባራትን የመፍጠር አቅማቸው ከፍተኛ መሆኑን ከጥናቱ ውጤት ማረጋገጥ ተችሏል።

ጥናቱ የመለሰው የመጨረሻው ጥያቄ “በምስራቅ ጎጃም ማህበረሰብ ውስጥ የአልባሳቱና የጌጣጌጦች ዕምርት ምን ይመስላል?” የሚል ሲሆን በዞኑ ማህበረሰብ ዘንድ አገልግሎት ላይ እየዋሉ ያሉ ባህላዊ አልባሳትና ጌጣጌጥ ለህይወት ምዕራፍ መግለጫ፣ ለእድሜ እርከን ማሳያ፣ ለማህበራዊነት ርድደረጃ እና ስለመንፈሳዊ ኑሮውና ስለማህበራዊ ሁኔታዎች ማሳወቂያ ትዕምርቶች መሆናቸውን ከዚህ ጥናት ውጤት መገንዘብ ይቻላል።

4.2. ይሁንታ

ከጥናቱ ውጤትና ሂደት በመነሳት የተወሰኑ የይሁንታ ሃሳቦችን ማቅረብ ይቻላል። ይህ ጥናት የተከናወነው በምስራቅ ጎጃም ዞን በሚገኙ የተወሰኑ ወረዳዎች ላይ ብቻ ነው። ስለሆነም ከባህላዊ አልባሳትና ጌጣጌጥ ስፋትና ውስብስብነት አኳያ በዚህ ዘርፍ ላይ ፍላጎት ያላቸው ተቋማት እና ምሁራን ጉዳዩን በስፋትና በጥልቀት ቢያጠኑት።

ከዚህ በተጨማሪ የአገራችንንም ይሁን የምስራቅ ጎጃምን ባህላዊ አልባሳት ማጥናት በተለያዩ ማህበረሰብ ክፍሎች የሚታዩ “ባዕድ” የአለባበስ ሥርዓቶችን መልክ ለማስያዝ ከፍተኛ አስተዋጽኦ ሊኖረው ይችላል። በመሆኑም ያገባኛል የሚሉ ተቋማት እና ግለሰቦች ባህላዊ አልባሳትና ጌጣጌጥ ሥርዓት ባለው መንገድ በሃቀኛነት እየተጠኑ ለሰፊው ህዝብ የሚተዋወቁበትንና አገልግሎት ለመስጠት ዋና አማራጭ ተደርገው የሚወሰዱበትን ስልት በማዘጋጀት በስፋት ሊሰራ ይገባል።

ማጣቃሻዎች

- Baatshwana, L.(1965). *World Costumes*.New York: The Macmillan Company.
- Clark, G. (1986). *Symbols of excellence*. London: Cambridge University Press.
- CSA [Central Statistics Authority].(2007). *Population and housing census*. Ethiopia: Addis Ababa.
- Gracia, M. (2008).Communicating through clothing: The meaning of clothing among Hispanic women of different levels of acculturation.College of communication; Florida University.
- KaiserH. (2004). *Cultural cloths: Functions, ideas*. Wisbaden: Frant steiner verlag Gmbh.
- Lurie, A. (1981). *The language of clothes*. New York: Random House Inc.
- Oestingaard K. (2002). A guide to th study of folklore: An introduction. Boston: Boston Book and Publisher
- Prown, J. (1982). *Mind in matter: An introduction to material culture theory and method*.Retrieved from <http://www.jstor.org/stable/11807661> on January/2016.

Sims, H., & Stephen, G. (2005). *American material culture: The Shop of things around us*. Bowling Green State: Bowling Green State University Popular Press.

Twigg, S. (2007). *Customary cloths: practices and conceptions*. London: Cambridge University Press.

Wilson, W. (1986). Documenting folklore. In E. Oring (ed) *Folk groups and folklore genres: An introduction*. Utah State University Press.

Woodward, I. (2007). *Understanding material culture*. Los Angeles: SAGE Publication.

Yoder, D. (1972). *Folk costume, folklore and folklife: An introduction*. University of Chicago.

ሰይፍ ይማም፤ (2002 ዓ.ም)። በከሚሴ ከተማ ዙሪያ በሚገኙ ገጠር አካባቢዎች የወጣት ወንዶችና ሴቶች አለባበስና አገልግሎት። የማስተርስ ዲግሪ ማሟያ ጥናት፤ የኢትዮጵያ ቋንቋዎችና ስነ-ጽሁፍ ክፍል ትምህርት፤ አዲስ አበባ ዩኒቨርሲቲ።

አመልማል ተሻለ፤ (2004 ዓ.ም)። በባንጃ ወረዳና አካባቢ የአዋቂ ብሄረሰብ አለባበስና ሕዝብ ጥናት። የማስተርስ ዲግሪ ማሟያ ጥናት፤ የአማርኛ ቋንቋ፤ ስነ-ጽሁፍና ፎክሎር ትምህርት ክፍል፤ አዲስ አበባ ዩኒቨርሲቲ።

አያል አድማሱ፤ (1992 ዓ.ም)። የጎጃም አካባቢ የአልባሳት ስያሜ። የባችለር ዲግሪ ማሟያ ጥናት፤ የኢትዮጵያ ቋንቋዎችና ስነ-ጽሁፍ ትምህርት ክፍል፤ አዲስ አበባ ዩኒቨርሲቲ።

አፀደ ያረጋል፤ (2003 ዓ.ም)። የኮንሶ ሃገረሰባዊ አልባሳት እና ሕዝብ ጥናት። የማስተርስ ዲግሪ ማሟያ ጥናት፤ የኢትዮጵያ ስነ-ጽሁፍና ፎክሎር ክፍል ትምህርት፤ አዲስ አበባ ዩኒቨርሲቲ።

የኔዓለም አረዶ፤ (2000 ዓ.ም)። የአርሲ ሴቶች ሕዝብ ጥናት በኮንሶ ሃገረሰባዊ ወረዳዎች። የማስተርስ ዲግሪ ማሟያ ጥናት፤ የኢትዮጵያ ቋንቋዎችና ስነ-ጽሁፍ ክፍል ትምህርት፤ አዲስ አበባ ዩኒቨርሲቲ።

ያለው እንዳወቀ፤ (1998 ዓ.ም)። የምርምር መሰረታዊ መርሆዎችና አተገባበር። ባህር ዳር፤ ባህር ዳር ዩኒቨርሲቲ።

ያሬድ ተፈራ፤ (2002 ዓ.ም)። በሰቆጣና በአበርገላ ገጠራማ ወረዳዎች የሴቶችና የወንዶች የአለባበስና አገልግሎት ማህበራዊ እሴቶች። የማስተርስ ዲግሪ ማሟያ ጥናት፤ የኢትዮጵያ ቋንቋዎችና ስነ-ጽሁፍ ክፍል ትምህርት፤ አዲስ አበባ ዩኒቨርሲቲ።

Relativization in Awngi

Yaregal Allene (PhD), Debre Markos University, Department of English Language and Literature
Email: yaregal.alene@gmail.com

Abstract

*This paper discusses Awngi relative clauses. Relative clauses in Awngi normally play identifying role. There may also exist instances where relative clauses may be used as non-restrictive. Their restrictive or nonrestrictive type is determined by co texts – there are no linguistic elements that distinguish between restrictive and non-restrictive clauses. Awngi relative clauses appear preceding main clauses. In sentences where the main and the relative clauses do not share a common subject, the subject of the main clause can be moved to sentence initial position yielding a way for the relative clause to be imbedded between the subject head and the predicate of the matrix clause. Relative clauses in Awngi are marked by relativizers, AGR suffixes that attach to verbs and relativize them. When relative and main clauses do not share a common subject, the relativized verb will be hosting both the subject and direct object markers. Hence the relativized verb in such structures appears laden with TAM cum AGR elements, as in *tás-ú-n-kú-sà* (kick-PRF-3PL (SUB)-3PL(DO)-ACC) ‘those that those kicked’ (the first those refers to the kicked ones and the second to the kicking ones).*

Key words: Relative Clauses, Relativizers, Relativized Verb, (Non-) restrictive, Main Clause and Host

I Introduction

Awngi is one of the Central Cushitic (the Agaw) languages within the Cushitic Language family, spoken in north-west part of the Amhara Region. It is spoken by 2 million peopleⁱ. The syntax and semantics of Awngi relativization has been little described except for brief discussions in Yaregal (2010, 2011). The main aim of this investigation is, therefore, to show the workings of relativization in Awngi. In so doing, this work will reveal that Awngi relativization has much to contribute to linguistic inquiries made at general and theoretical level in the (Central) Cushitic Language Family.

The organization of this paper is as follows: Section 2 describes the features of lexical adjectives in Awngi, Section 3 investigates the syntactic structures of Awngi relativization with occasional comparison with some other closely-related Agaw languages. Section four discusses Awngi relativization within complement clauses. Before I embark on relative clause discussions, I shall present some highlights of Awngi lexical adjectives, for relative clauses like lexical adjectives are noun modifiers that also share common morphological and syntactic features.

II Lexical Adjectives in Awngi

Syntactically, as Awngi is a head final language, qualifiers precede the qualified. Noun modifiers may assume NP heads in constructions where head nouns take covert realizations. Morphologically, noun modifiers behave like nouns in several respects. Of course, they are, like nouns, inalienably gender marked – every qualifier ends with inherent gender marking vowels, *-i*, *-u* or a *consonant* for masculine or *-a* for feminine. They are pluralized in concord with head nouns or, in NPs where head nouns do not appear overtly, alone.⁸

- (1) a. fútĩ/fútǎ (MS/FM) → fútǎ-ká (PL) ‘white’
b. fútĩ fǐyál / fútǎ fǐyálá / fútǎ-ká fèl-kā⁹
white.male goat.male / white.female goat.female / white-PL goat.PL
‘white male goat’/ ‘white female goat’/ ‘white goats’

As can be noticed from the above illustrative examples, both singular nouns and adjectives end in gender marking vowels (*-i* (masculine) *-a* (feminine)), which are inherent or inalienable markers of gender. The same is true with the plural forms – the adjective and the noun pluralize in concord (cf. 3b).

The fact that Awngi adjectives behave like nominals as mentioned above has given a way for them to assume NP heads where nouns they qualify take covert realizations.

- (2) *fútǎ/fǐ* (*àqqá*) ɲitǎ-χ
white (woman) his mother-COP
‘The white (woman is his mother.)’

The italicized part in (2) above is the NP, and its head is *àqqá* ‘woman’, which, as it is put in parentheses, can be elided without causing difference in meaning. As far as overt realization is concerned, the adjective *fútǎ/fǐ* assumes the NP head at least overtly.

As adjectives show number and gender correspondence with nominals in the language, possessive pronouns, like nouns, match with adjectives in this regard (cf. 3).

⁸ Noun qualifiers in Awngi can appear as NP heads where head nouns are understood (Yaregal, 2017: 163).

⁹ In Awngi some nouns pluralize by dropping their final vowels (gender vowels), hence dǐχòrí ‘male donkey’ dǐχòrá ‘female donkey’, dǐχòr ‘donkeys’.

- (3) dímmí jí-w-éχ / dímmá jí-t-éχ / dím-ká jí-k^w-éχ
 red.MS my-SG-COP red.FM my-FM-CP red-PL my-PL-COP
 ‘The red is mine. / The red is mine. / The red are mine.’

III Awngi Relative Clauses

Like in languages in general (Miller, 2002: 63), complex sentences in Awngi consist of a main clause and one or more other clauses subordinate to it. Subordination according to Cristofaro (203: 2) is functionally defined as a relation between two events, such that one of them (which is called the dependent event) lacks an autonomous profile, and is construed in the perspective of the other event, the main event. In many languages of the world, constructions expressing the two events are joined by separate words as connecting elements. However, some inflectional languages do not have separate words as subordinators. Subordination in these languages is handled via affixal elements that attach to content verbs or nouns.

As Awngi is an inflectional language, it does not have separate words as subordinators. Nonetheless, it has some sentence connecting elements that do not occur independently as separate words – they are subordinating agreement suffixes that occur attached to verbs. It is also the case that Agaw languages do not have sentence connecting particles; “Agaw has no sentence connecting particles, so that conjoining and subordination are handled by verbal morphology (Hetzron, 1976: 28).”

Awngi is an SOV language; typical of OV languages (Payne 1997:327), Awngi employs prenominal relative clauses – relative clauses appear preceding main clauses.

Relative clauses in Awngi are normally restrictive. There also exist instances where relative clauses may be used as non-restrictive. Consider (4) below.

- (4) ṇítálá áṇjá nì-χ^{wā} jí-nt-ú-χí dzìmantéχ
 his father yesterday we-home 3MS-come-PRV-3MS.PR.V.FOC singer
 ‘His father who came to our house yesterday is a singer.’

A relative clause (henceforth RC) functions as a modifier of a head NP within a main clause, and shares an argument (which may be stated in both clauses, or in just one, or in neither) with a main clause (Dixon, 2010: 314). The argument that an RC shares with the main clause (hereafter MC) can be in A, S, or O function. RCs in Awngi are marked by agreement affixes which attach to the verb and relativize it.

Like lexical adjectives, relative clauses show gender and number agreement in concord with the noun they qualify, the noun in the MC, and, in the relative clause, it is the verb that hosts AGR elements **due** to which it is relativized (cf. 5).

- (5) a. dàdìχê ímm-í-x^w pòlís
 thief.ACC catch-PRF-3SM police
 ‘The policeman who caught the thief’
 b. dàdìχê ímm-í-nkú pòlís-ká
 thief.ACC catch-PRF-3PL police-PL
 ‘The policemen who caught the thief’

A relativized verb that shares its direct object with the verb in the MC agrees with both the RC and the MC's subjects (cf. 6).

- (6) **intsàχàrí jag-ún-kú-sà dór-kà-wà àj kàts-iχ^w**
 children bring-PRF.3P(sub)-3P(OB)-ACC chicken-PL-ACC who take-PRF.3MS
 'Who took the chickens that the children brought?'

As can be noticed in (6) above, we see two PL glosses for -ún and -kú under relativized verb. As shown in parenthesis, *-un* refers to the subject (**intsàχàrí**) and *-kú* to the object (**dórkàwà**) of the relativized verb. Thus, a change in the subject or object of such relativized verb entails a change of the form of a relativized verb, for agreement affixes change accordingly.

As touched upon earlier, Awngi RCs appear preceding main clauses, which, according to Payne (1997:327), is typical of SOV languages. The RC is structured from a verb and an agreement suffix that attaches to the verb and relativizes the clause. Other adjuncts may accompany the verb. In sentences where an RC and MC do not share a common subject, an RC may occur imbedded within an MC.

- (7) **tìrémá díbs-úχ àqí jítsè-χ**
 stand-CNV speak-PRF.3MS.REL man my-brother-COP
 'The man who spoke standing is my brother.'

The *italicized* form in (7) above is an RC. The suffixal form *-úχ* may be further analyzed as *-ú-χ* (PRF-3MS.REL).

When the verb of the MC is transitive, the verb in the RC attaches an accusative marker *-sà*,¹⁰ the suffixal form that occurs only with RCs. Consider (8b) below); (8a) is presented for comparison

- (8) a. **ɲárgè χ^w-áw àqí wàlādɜ́-á-là**
 honey.ACC eat-PRV.3MS.REL man grow old-IPRV-NEG
 'A person who eats honey does not get old.'
 b. **ídɜ́dɜ́é-má jint-úχ-sà àqí gènzáb-s kits-únà**
 stay-CNV come-PRV.3MS.REL-ACC man.ACC money-INSTR fine-PRF.3PL.REL
 'They fined the man who came late.'

The bald parts in (8) above are RCs. The verb, *χ^wáw*, in (8a) is transitive and its object is *ɲárgè*. The verb, *kits-únà*, in (8b) is transitive; hence the RC is used as the direct object of this verb. The subject of the MC is *they*, covertly realized but referenced on the verb.

While the occurrence of the direct object of the RC, *ɲárgè*, in (8a) cannot be optional, that of the direct object of the MC, *àqê*, in (8b) is optional, for it is referenced in the relativized verb. As touched upon earlier, qualifiers in general may assume NP heads in constructions where the qualified nouns are not overtly realized. The same rule applies to RC-MC constructions – as the noun in the MC is referenced on the relativized verb, it may be understood, i.e. it may not appear overtly (cf. 9).

- (9) **χa`r-ô gérk-ô intsáχíst-úχ míntɕ-ò bírr-ò ímí-χ^wà**
 night-TMP day-TMP work-PRF.3MS lots of-ACC BIRR-ACC hold-PRF.3MS

¹⁰ Other Awngi accusative marker suffixal forms are phonologically conditioned allomorphs, *-ò* and *-è* (Yaregal, 2007).

‘He who worked day and night got lots of money.’

The italicized part in (9) above is a relative clause. The subject of the MC, as can be seen from the gloss, does not appear overtly. As it is referenced by AGR suffix, 3MS, the translation reads as *he who*.

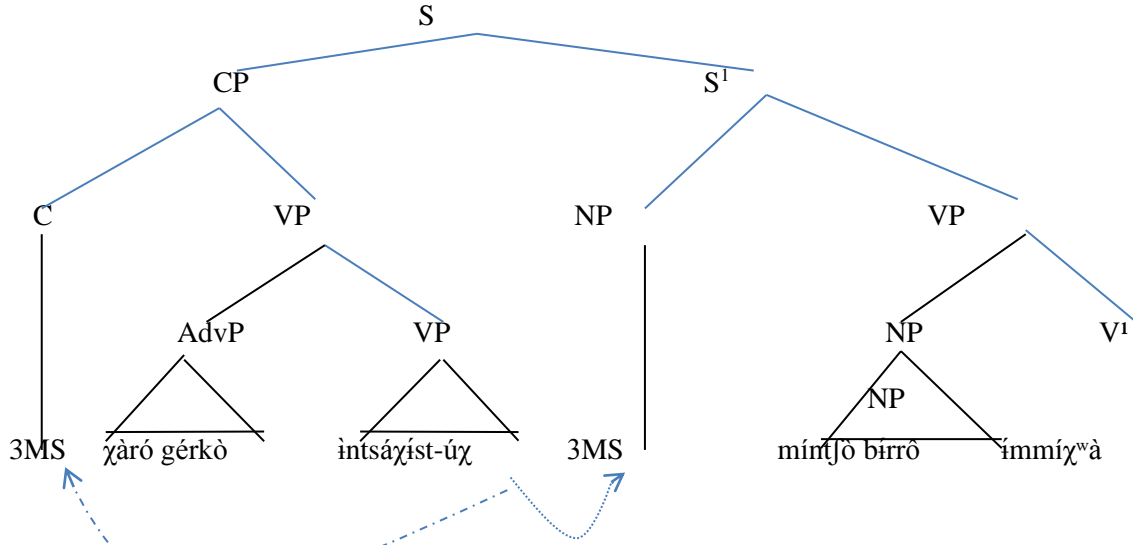


Fig 1: The structure of the sentence *χάρò γέρκò ìñsáχíst-ùχ mίντjò bírrò ìmmíχ^wà* (9) on a tree diagram

As can be noticed from the above tree structure, the terminal node under the NP (under the S-bar) of the MC, i.e. the subject of the MC, is filled by 3MS to show that it is referenced. Both the RC and the MC share a common subject, which referenced by 3MS on the relativized verb.

As touched upon above, RCs normally occur preceding the head nouns and MCs occur in independent positions, i.e. one is not imbedded within the other. Nevertheless, in sentences where an MC and RC do not share a common subject, an MC's subject may be moved to sentence initial position, giving a way as a modifier (a relative clause) to be imbedded within the MC (between the subject and predicate of the main clause) (cf. 10c-e). (10a-b) are presented for comparison. Some of the dependent clauses in these constructions play completion role to the verb semantically; they are, therefore, complement clauses comprise relative clauses within them (this is discussed under section IV).

- (10) a) *án dzèp-ùχ bírì kír-ù-χà*
 I buy-1s(SB).3MS(OB).PFV.REL ox die-PFV-3MS
 ‘The ox I bought died.’
- b) *án dzèp-ùχ-sà bírì jítsè kíràjt-ù-χà*
 I buy-1s(SB).3MS(OB).PFV.REL-ACC ox.ACC my brother rent-PFV-3MS
 ‘My brother rented the ox that I bought.’
- c) *tàblí dzèr-kí jàg-ún-kú-sà dór-ká-wà kíràjt-ù-χà*
 father child-PL bring.3P.PFV(SB).REL-3P(OB).REL-ACC chicken-PL-ACC rent-PFV-3MS
 ‘The father rented the chicken that the children brought.’
- d) *àqá ìnk^áná tíf-t-ùχ ñirdzí-lì àràkí-η-t-ùχ-à*
 woman last year divorce-FM-PRF.FM.REL male-CONC reconcile-RECIP-3F-PRF.3F-PRF
 ‘The woman reconciled with the husband she divorced last year.’
- e) *kìntítsántí kás-ká-wà zúrts-ùχ kìntántí-s màtsáf-ò jèlám-ùχ-à*
 teacher question-PL-ACC answer-PRF.3MS student-DAT book-ACC reward-PRF.3MS-PRF
 ‘The teacher rewarded the student who answered the questions.’

As can be noticed from the gloss, *-ún* (subject agreement) occurs closer to the root verb while *-kú* (object agreement) occurs at the end of the relativized verb form. This can be attested from the table presented following the tree structure below and showing paradigmatic data of the verb, *jàg*- ‘to bring’. A full sentence structure of (10c) can be depicted on the tree structure below.

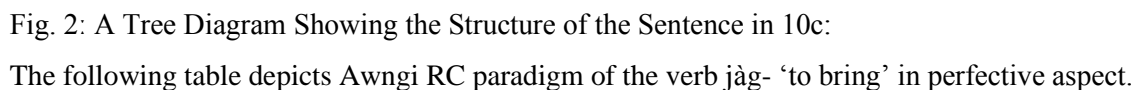


Table: Awngi RC Paradigm of the Verb *jàg-* ‘to Bring’ in Perfective Aspect.

Person (SUB)	Number-Cum-Gender	<i>dʒèw-</i> ‘to buy’	DO
1	SG	<i>dʒèp-úχ</i>	MS
		<i>dʒèp-út</i>	FM
		<i>dʒèp-úk</i>	PL
	PL	<i>dʒèw-núχ</i>	MS
		<i>dʒèw-nút</i>	FM
		<i>dʒèw-úk</i>	PL
2	SG	<i>dʒèw-túχ</i>	MS
		<i>dʒèw-tút</i>	FM
		<i>dʒèw-túk</i>	PL
	PL	<i>dʒèw-tínù</i>	MS
		<i>dʒèw-tíntí</i>	FM
		<i>dʒèw-tínkú</i>	PL
3	MS	<i>dʒèw-úχ</i>	MS
		<i>dʒèw-út</i>	FM
		<i>dʒèw-úk^w</i>	PL
	FM	<i>dʒèw-túχ</i>	MS
		<i>dʒèw-tút</i>	FM
		<i>dʒèw-túk</i>	PL
	PL	<i>dʒèw-nù</i>	MS
		<i>dʒèw-nútí</i>	FM
		<i>dʒèw-únkú</i>	PL

The above table shows gender-cum-number markers of subject and direct object. Direct object markers take final position in the relativized verb form.

IV Relativization within Complement Clauses

Relative clauses may occur within complement clauses (cf. 11).

- (11) *màllàsá kúp ts-úχ-sà fumbê sàfē kàts-ĩχ^w-à*
Mälläse collect.IDP make-PRV.3MS-ACC maize.ACC Shashe take-3FM.PRIV-PRV
‘Shashe took the maize that Mellese collected.’

The verb *kàtsĩχ^w* ‘she took’ in MC of (11) above is divalent – it requires two arguments, a subject and a direct object. Thus, the italic part in (11) functions as an NP complement, direct object, of this verb. This complement clause on its part has a relative clause within it – *fumbê* ‘the maize’, which is in O function for the verb *kèwúχsà* ‘that he cut’ in the complement clause, is qualified by the relative clause (with ideophonic VP) *màllàsá kúp ts-úχ-sà*. Hence *màllàsá kúp ts-úχ-sà* is a relative clause construction within the complement clause, *màllàsá kúp ts-úχ-sà fumbê*. As *fumbê* is an NP head of the complement clause, it is in O function for the verb of the main clause, *kàtsĩχ^w-à*. Thus it is in O function for the verbs both in the main and in the complement clauses.

The following tree structure presents a clear picture of the structure in (11).

màllàsá kûp ts-úχ-sà fùmbê sàfê kàts-ĩχ^w-à

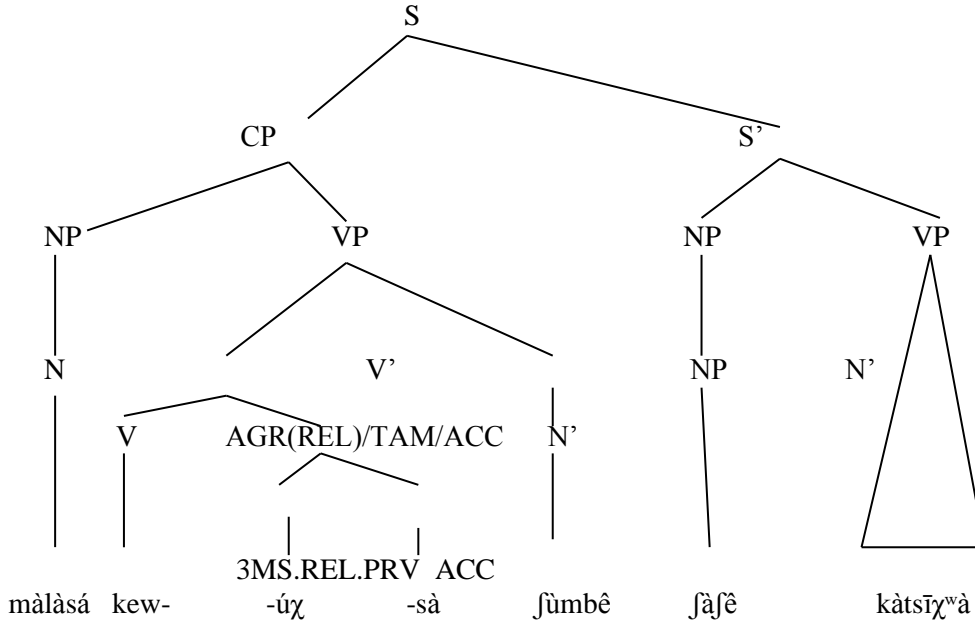


Fig. 3: A Tree Diagram Showing the Structure of the Sentence:

As can be noticed in the above tree structure, the VP within the complement clause branches into V' and NP. The NP is *fùmbê*, an argument shared both by the matrix and the dependent clause verbs – it is in O function for the verbs under VP of CP and VP of S', viz. *kèw-úχ-sà* and *kàts-ĩχ^w-à* respectively. The relativized verb *kèw-úχ-sà* qualifies *sùmbê*, and is in O function for *kàts-ĩχ^w-à*, an MC verb – it is marked accusative in concord with *shumbê*, the noun it qualifies (recall earlier discussions in respect of this). See Yaregal (2007 & 2017) with regard to formal difference between *-sà* and *-ê*, accusative markers that have attached to the relativized verb and its qualified noun, *fùmbê*.

Abbreviations

ACC	accusative
AGR	agreement
CONC	concomitant
CNV	converb
COP	copula
DAT	dative
DO	direct object
FM	feminine
FOC	focus
IDP	ideophone
INSTR	instrumental
IPRV	imperfective
MS	masculine
MC	main clause
NG	negative
(O)B	object
PL	plural

PRV	perfective
RC	relative clause
RECIP	reciprocal
REL	relative
SG	singular
SUB	subject
TMP	temporal
1	first person
2	second person
3	third person

References

- Cristofaro, Sonia. 2003. *Subordination*. Oxford Studies in Typology and Linguistic Theory. Oxford University Press.
- Dixon, 2010b. *Basic Linguistic Theory: Grammatical Topics* (Volume II). Oxford: Oxford University Press
- Hetzron, 1976. The Agaw Languages. *Afroasiatic Linguistics* 3: 31–75.
- Miller, J. 2002. *An Introduction to English Syntax*. □Edinburgh University Press.
- Payne, Thomas E. 1997. *Describing morpho syntax: A guide for field linguists*. Cambridge: Cambridge University Press.
- Yaregal, 2010. *Awngi Grammar*. In the Proceedings of the First National Research, Debre Markos University.
- . 2012. *awngiw sawasaw* (Awngi Grammar Book for teaching Awngi grammar at a college level). Route Printing Press, Bahir Dar.

Challenges and Opportunities of Learning English in Multicultural Classrooms: Debre Markos University in

Focus: By: Yigzaw Kerebih, Department of English Language and Literature

Abstract

The main purpose of the study was to find out the challenges and opportunities of learning English in a multicultural classroom of first year Debre Markos University students. To achieve the objective of the study, a descriptive research design was used. Accordingly, data was collected from first year Debre Markos University students. Twenty-four students who have low participation in English class were selected using purposive sampling technique. From these participants, data were collected using observation, interview and focus group discussion. After the data was collected, it was analyzed qualitatively through explanation, description, narration and quotation by classifying the phenomenon into different thematic areas. From the analysis of qualitative data, it was found that learning in a multicultural classroom has become a challenge of learning English as a foreign language. Cultural differences among students, lack of confidence, negative attitude of students towards the process of learning English and weak linguistic backgrounds of students were the common challenges that affected students' learning in multicultural classrooms. In spite of these challenges, it was found that multicultural classroom created conducive learning environments for students who have different learning experiences and abilities. It helped to create learner autonomy/independent learning. Finally, it was found that students used their own strategies like self-regulated learning/independent learning, getting support from senior students and reading different materials to solve the problems of learning English in multicultural classrooms. Thus, the study has implications for the English language teaching and learning in diversified EFL classrooms. It will help both English language teachers and students to design different teaching and learning strategies used in multicultural classrooms.

Key words: multicultural classrooms, English language learning, diversified learners

1. Introduction

The demand for learning and teaching of English as a foreign language (EFL) has steadily increased throughout the world (Dorathy and Mahalakshimi, 2011; Garton, Coplind and Burns, 2011). There are different reasons for this

demand. One is that English language has become the most important means of international communication (Dorathy and Mahalkshim 2011; Garton, Copland and Burns 2013). For this reason, many people consider English language as “an asset for diplomacy, foreign relation and a passport for the advancement of global media and entertainment”. Secondly, the desire to learn English has increased as it has a great role in academia. Different research findings show that learning English increases the overall communication and problem solving abilities of students in their academic activities; it increases learners’ creativity, cognitive and affective development (Garton, Coplind and Burns 2011). Moreover, having good command of English creates better job opportunities for graduates (Garton, Coplind and Burns 2013; Pinion and Hydon 2010).

In addition, the teaching and learning of English have currently increased in multicultural or multilingual classrooms due to increased mobility of people and closely linkage of countries in economic, social and political values. Thus, learning English in a multicultural classroom has become a common agenda in different countries (Patil, 2008). This, in turn, helps learners to acquire more than one language. Learning different languages, on the other hand, helps learners create different kinds of connections in the brain.

Paik(2008)also shows that the teaching and learning of English in diversified classes has become most common in national and international universities. The different customs, traditions, languages and values each student owns make all students have unique approach to learning, cognition and achievement (Holtzman, 2009). Likewise, Ethiopia, a vast country with the highest population, diverse culture and language has taught English as it has different roles for the country. It has a great role in social, economic, political and education affairs of the country (Bacharo 2014; Dawit 2013; MOE 2013). Emphasizing the different roles English language plays in a country, Jha (2014:10) states “Metaphorically, the way oxygen is important to survive, so is English to survive in today’s competitive world.” So, considering the above roles of English language, Ethiopia introduced the teaching and learning of English at the early age, and it has wealth experience in teaching English as a foreign language.

However, the teaching and learning of English has become a great challenge in universities where diversified students are found. Jha (2013) and Meseret (2012) found that Ethiopian students’ English language proficiency level is low and students could not master English language easily. The government and employers also claim that university students’ and graduates’ English language proficiency is not ready to meet the industrial, business and international trade society English language needs (Mijena, 2014). The researchers’ teaching experience also shows that the problem has become more severe in EFL classes where culturally and linguistically diversified students are found. In these diversified classrooms, students usually prefer to do tasks individually rather than in group. When group work, debate, pair work, group presentation or whole class discussion was given, most of the students prefer to do individually.

The researcher’s teaching experiences also indicated that there are four types of EFL learners in one EFL classroom: students who can speak two local languages and English, students who can communicate using only their mother tongue, students who cannot communicate using English and other local language except their mother tongue and those who cannot communicate using English. Because of these problems, students have become passive listeners when inter-active learning methods were applied in English classrooms. To solve such problems, Atkinson (1987), Schweer and William (1999) and Ferrer (2000) suggested that both the teacher and the students need to use mother tongue in EFL classroom. They spotlight learners acquire second/ foreign language by using the knowledge they already have of their native languages. However, as the researcher observed the actual EFL classrooms, it is difficult to enhance English learning using mother tongue because the class is linguistically diversified. Therefore, the researcher was initiated to assess the challenges and opportunities students face to learn English in diversified classrooms.

2. Research questions

This study addressed the following three research questions.

1. What are the challenges that affect students' English language learning in multicultural classrooms?
2. What are the opportunities used to enhance students' English language learning in multicultural classroom?
3. What strategies do students use to alleviate the challenges they face in multicultural classrooms?

3. The Research Methodology

3.1 The Research Design

This research is descriptive research design. The researcher selected this research as it is suitable to describe the existing challenges and opportunities of learning English in multicultural classrooms.

3.2 Samples and Sampling Techniques of Study

The participants of the study were 24 first year students who learned English at the beginning of the semester in 2017. The researcher selected those students using purposive sampling technique from four sections he had taught. Purposive sampling was used as the researcher focused on students who had great problem in learning English students who came from different regions (Amhara, Oromia, Tigray and Sothern Ethiopia) speak different languages.

3.3 DataCollection Instruments

Observation, interview and focus group discussion were used as data collection methods for the study. The observation data was collected while the teaching learning process was going until the researcher obtained saturated data. After each observation, the researcher collected data using semi-structured interview questions. These questions were preparedbased on the review of literature and researcher's teaching experience. Later, the items were translated into Amharic believing that the items might not be clear for students and in case more replies might be withheld for lack of expressions. Moreover, students who werenot much proficient in Amharic were interviewed using their mother tongue with the help of translators. Then, their responses were translated into English before analysis. The interview data were collected afterthe researcher made classroom observations. That is, when a researcher observedlearning problems on students while he was teaching, he interviewed two or three students after class. This instrument was used to capture their views and voices on the challenges and opportunities students face during learning English in multicultural classes.

The items of focus group discussion were prepared based on the main areas the study focused. This method was used as it was appropriate to find out the challenges and opportunities students faced when they learned English in multicultural classroom. The participants of study were students who speak Amharic but who came from different cultural backgrounds. The focus group discussion was taken place after the course was completed.

2.3 Data Analysis

The data obtained from three data collection methods were analyzed qualitatively. To do this, the following processes were employed. First, the researchers transcribed, edited and formatted the verbal data to make them suitable for analysis. Second, close reading of the raw data was done to identify the themes and details. Third, the raw data were coded and categorized into meaningful units. That is, data were categorized and related to answer the research questions. Fourth, since some text segments could be coded into more than one category, the results found in each item were again categorized. Finally, all the categories were revised and refined. This involved the selection of appropriate quotes that would carry core themes. Finally, all the categories were revised, refined and presented through narration, quotation, explanation and thematic analysis. The direct quotations obtained from different respondents were presented by translating into English.

4 Results and Discussions

4.1 Results

4.1.1 Challenges of Learning English in Multicultural Classrooms

As emerged from data analysis, the major challenges that affected students' English language learning in a multicultural classroom were the presence of diversified and weak linguistic background students, lack of confidence and negative attitude of students to learn English in a multicultural classroom. The table below shows the major and the sub-themes emerged from the thematic data analysis.

Table 1: Challenges Faced by First Year DMU Students to Learn English in Multicultural Classrooms

No.	Major themes	Sub-themes
1	Diversity of students	Varied abilities and learning experiences
		Varied learning styles among students
		Unfamiliarity among freshman students
2	Weak English language backgrounds	Communication barrier
		Less knowledge in grammar
		Less knowledge in vocabulary
		Influence of mother tongue
3	Lack of confidence	Stereotype interaction
		Afraid of criticism
		Stress, frustration
		shyness
4	Negative attitude of students	teaching methods
		classroom tasks/activities
		diversified classrooms
5	Multilingualism	different linguistic backgrounds
		interaction problem
		focus on mother tongue

4.1.1.1 Diversity of students

Students' diversity has become one of the foremost themes of the data. Difference of students' learning abilities and experiences, varied learning styles among students and unfamiliarity among students are the major challenges negatively affected English language learning. The participants claim that the way they learned their mother tongue and English in lower grades and in the university was different. When they learned English in primary or secondary schools, they and their English language teachers used students' mother tongue. Two participants clearly show this difference in their verbatim expression:

“When I was learning English in primary and secondary schools, I and my teacher usually used my first language in EFL classroom, particularly when group work, pair work, individual work and whole class discussion were given. Now, however, I cannot use my mother tongue to express my feeling as other students and the teacher cannot speak my first language.”

Another participant also stated:

“The way I learned English in lower grades is different from the way I learn English in the university. In primary and secondary schools, I used my mother tongue to do the tasks. However, at present, I cannot use my mother tongue in EFL classroom as my teacher and most of my classmates cannot speak the same language. This makes my English learning difficult.”

Differences of students' learning styles and experiences were the other problems that affected students' learning of English. It was reported that their learning style was different from other students' learning styles. This learning difference hindered students to use inter-active learning methods that enhance English language learning. This in turn causes to occur less/no interaction among students. Two participants in focus group discussion stated:

S1: "I do not like to do tasks/activities in groups. Rather, I prefer to learn individually."

S2: *The teacher usually encourages us to communicate using English language. But I become nervous when I want to speak in front of my teacher and classmates. So I prefer to do tasks individually and get feedback from my teacher.*

The unfamiliarity among students in EFL classroom also affected students' English language learning. The respondents replied that they were not much aware about their classmates' behavior and their language. This made them feel terrified on students who did not speak the same language. It was also observed that there was a communication gap among students who came from different linguistic backgrounds. In light of this, three participants in focus group discussion stated:

P1: "I am afraid of talking with my group members as I am not familiar with them, and my language is different from them. Even I think that I may be wrong if I talk about a particular issue."

P2: "I rarely talk with my group members as I do not know their behavior."

P3: "When a group is formed, I usually sit with my classmates who come from my region and speak the same language."

4.1.1.2 Weak English Language Background of Students

The data obtained from interview, observation and focus group discussion indicated that students' weak English background was the other major problem that distressed students' English language learning. They had a communication barrier with their classmates and their teachers. Their low proficiency in English language made them not to communicate effectively and learn English in the classroom. They responded that limited vocabulary and grammar knowledge, inability of articulating English words correctly and inability to speak English language fluently were the major problems of learning English in a diversified classroom. Two interviewees explained their problems as follows.

S3: "My mother tongue adversely affected my English pronunciation. Sometimes I want to speak in English, but I am afraid of criticisms of my classmates."

S4: *I do not have much problem in understanding the lesson. However, I cannot speak in English because of my weak linguistic background. My mother tongue also influences and inhibits my English pronunciation.*

The observation data also showed that some students were reluctant to speak in English as they are not sure on their accuracy and fluency of their speech.

4.1.1.3 Lack of Confidence

Lack of confidence also emerged as the other major theme that affected students' English language learning in multicultural classrooms. Students who learned in multi-cultural classroom were more likely passive listeners. The observation data showed that they were not actively involving in doing different activities, they felt stress when they attempted to speak, they were frustrated and stressed when they worked with other students, and most of them were reluctant to participate in group activities. When some of the students were interviewed after observation the reasons they were not participating actively in EFL classrooms, they stated that they did these as they were not sure about their command of English.

4.1.1.4 Negative Attitude of Students towards Teaching and Learning Process

The patterns and themes emerged from the interview and focus group discussion data revealed that attitude was the other challenge that affected students' English language learning. Though most of the students had positive attitude to learn English, they were not interested in engaging in the tasks used for learning English. Students had also a negative attitude towards the teaching methods employed in EFL classrooms. They preferred individual work to other interactive methods. It was also observed that students gave little attention to any of the interactive teaching methods used to facilitate English learning.

4.1.2.5 Multilingualism

As emerged from the themes of the finding, the study revealed that multilingualism had become another challenge of learning English. The respondents complained that they could not achieve the objectives of learning English as they did not have common language for effective communication. When students of different linguistic backgrounds engaged in group work, they spoke using neither English nor another common language.

4.2 Opportunities of Learning English in Multicultural Classroom

Even though the study revealed that learning English in multicultural classroom has many challenges, it has also its own merits. Some of the participants stated that learning in a diversified classroom is enjoyable and helpful to learn from other's experience. Working with students having varied abilities and learning experiences encouraged the students to help each other. Students also learned English by appreciating other's customs, traditions and values. It was also found that learning in a diversified EFL classroom enhances learner autonomy. This in turn, helps learners to use their own strategies of learning and inquires a student what is his/her best method of learning and experience. They also added that learning in a diversified classroom fosters friendship among students.

4.3 Strategies of Solving Challenges in a Diversified Classroom

Though most of the students responded they did not use any strategy, some respondents replied they used different strategies like independent learning, getting support from senior students and reading different materials.

5. Discussion

The data collected from interview, focus group discussion and observation indicated that learning English in a multicultural EFL context has become an enormous challenge for first year students though it helps to create some conducive learning environments of English. Students' cultural background difference is one of the major challenges that adversely affect students' learning. Learners are different in their learning styles, learning experiences, abilities, ethnicity and learner motivation. These differences make students face ambiguity and inconsistency in their learning. They reported that they cannot understand the lessons since their learning styles, learning experiences and abilities are different from other students' learning styles. Regarding this, Brown (2007) and Cooper (2001) found out that identifying students' learning styles and matching them with teachers' teaching styles make the teaching and learning process easier.

The participants also explained that the way they learned their mother tongue and English in primary and secondary schools and in university is different. While they were learning English in primary and secondary schools, they used their mother tongue, but they rarely use it now. For this reason, they hardly interact with their teacher and their group members. In light of this, Atkinson (1987) points out that using mother tongue in EFL classroom makes the lesson clear. Learners acquire second or foreign language by using the knowledge they already have of their native language. Others also found that there is an inter-dependence between mother tongue and foreign language learning (Cummins, 1977, 1984; Cook, 1991).

Students' weak English background was another challenge for learning English in multicultural classrooms. It was found that students have some severe problems in English language. They have shortage of vocabulary and grammar knowledge resulting in problem of fluency and difficulty of articulating English words, so they are hesitant to speak or to write in English. Similarly, Rasheed et al (2017) found that students' weak linguistic background is the challenge for teaching English in multicultural classroom.

Lack of confidence has also become the other challenge of learning English in a multicultural classroom. Students believed that their classmates criticized and underestimated them if they articulated English words wrongly. They felt mistrust even if their teacher gave them positive feedback. In relation to this, it was found out that individuals who view themselves as ineffective tend to limit their behavior of involving in a task. However, Bandura (1997) and Beck (1997) note that students who are confident about their competence will try to find out different ways of controlling the environment in which they learn and gain the desired performance. Students' attitude on different aspects of learning English has also become the challenge of learning English. Students have negative attitude towards the processes of teaching and learning English. That is, students are not interested in the teaching methods such as group work, pair work and group discussion and the tasks given in each of these methods of teaching English.

To alleviate the above mentioned challenges of learning English in multicultural classrooms, students reported that they used their own learning strategies. These include independent learning (self-learning), asking senior students and reading different materials. Though learning English in a multicultural classroom has the above mentioned challenges, it was found that multiculturalism has its own advantage. Some of the respondents replied that learning in culturally diversified classroom is enjoyable and helpful for learning English. It helps them to know other cultures so that they learn English by appreciating others' culture. Moreover, students learn best when they engage with students who have different learning abilities and experiences.

6 Conclusions and Recommendations

6.1 Conclusions

Based on the findings and discussions, it was concluded that learning English in a multicultural EFL context has become a great challenge though it provides some opportunities of learning English. One of the challenges students face in EFL classroom was the difficulty of learning English with students who have diversified backgrounds. Students faced a problem of matching their learning styles, experiences and abilities with others. These in turn, made them feel discomfort, uncertain and uneasiness to communicate easily with their group members. Differences in linguistic backgrounds and language abilities also negatively affected their learning. Students have shortage of English grammar and vocabulary knowledge, a problem of articulating English words and a problem of speaking fluently. Because of these problems, students have developed low confidence and felt stress, frustration and criticism in EFL classroom. It was also investigated that students are not interested in the tasks and methods applied in EFL classrooms. These in turn, make them have negative attitude on the process of English language teaching and learning. In spite of these challenges, the respondents reported that learning in multicultural classroom has some merits. They reported that they learn best as they engage with students who have different cultural backgrounds, learning abilities and learning experiences.

6.2 Recommendations

Based on the conclusions, the following recommendations were made.

- EFL Teachers should have awareness that students with different cultural backgrounds have different needs. Then, they need to discuss with students and fellow teachers on group formation, use of interactive methods/

specific teaching methods, interpersonal cues and preparation of multilingual materials to create a positive classroom atmosphere and to cater the needs of diverse students.

- EFL teachers also regularly have to deal with tensions concerning students with different backgrounds and find out the ways of minimizing students' anxiety of language learning.
- Ministry of educations should provide options for training practices, mentoring programs, in service workshops and seminars for teachers to solve problems of multicultural EFL classrooms.
- Students should be confident as their language learning can be enhanced when they practice the target language confidently. Moreover, they should be aware the merits of learning in a multicultural classroom, appreciate the values of cultural diversities and develop their own strategies of learning.
- University administrators should help students promote awareness and understanding of diversity. They should also strive to build a school culture that is inclusive and respectful for all students.
- Another study should be conducted using wider sample of students at national or regional level by incorporating all groups of students: high, medium and low achievers.

References

- Alsubaie, M. (2015). Examples of current issues in the multicultural classroom. *Journal of Education and Practice*, 6(10), 1-15
- Athkins, D. (1987). The mother tongue in the classroom. a neglected resource? *ELT Journal* 41(4): 241-247.
- Bachore, M. (2015). The status, roles and challenges of teaching English language in Ethiopia context. *International Journal of Home Science*, 1(2), 86-90.
- Bandura, A. (1997). Self-efficacy: the exercise of control. New York: W. H. Freeman Pvt. Company.
- Beck, A. (1997). The past and the future of cognitive therapy. *Journal of Psychotherapy Practice and Research*, 6 (4): 276–284.
- Brown, H.D. (2007). Teaching by principles: An interactive approach to language pedagogy (3rd ed). White Plains: Pearson.
- Cooper, T.C. (2001). Foreign language teaching style and personality: *Foreign Language Annals*, 34, 301-16
- Cook, J. (1991). Conversational and academic language proficiency, *All reviews*, 8, 75-79
- Cummins, J. (1979). Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters. working paper on bilingualism, 19, 121-29
- Cummins, J. (1984). Bilingualism and special education: issues in assessment and pedagogy. Clevedon: Multilingual Matters.
- Dawit, A. (2013). Enhancing students' writing skills through the genre approach. *International Journal of English and Literature*, 4(5): 242-248.
- Dorathy, A. & Mahalakshmi, N. (2011). Secondlanguage acquisition through task-based approach: Role-play in English language teaching. *Journal of English for Specific Purposes World*, 33(11).
- Ferrer, V. (2011). The mother tongue in the classroom: Cross-linguistic comparisons, noticing and explicit knowledge. Teach English Worldwide
- Gall, MD., Borg, WR. & Gall, JP. (1996). Educational research. White Plain, NY: Longman Publishers.
- Garton, S. Copland, F. Burns, A. (2011). Investigating Global Practices in Teaching English to Young Learners. *ELT Research papers*, 11(1), 1-16.
- Holtzman, S.S.K. (2009). Teaching for diversity in an EFL classroom. *JLCC*, 11 (1), 1-20.

- IAFOR .(2015). International conference on language learning: Official conference proceedings. *IAFOR International Academic Forum. Institute of Language Studies and Journalism*, 3(2), 201-212
- Jha, S. K. (2013). Multilingual education: An emerging threat to quality English education in Eastern Ethiopia. *Theory and Practice in Language Studies*, 3(1), 1737-1743.
- Jha, S. K. (2014). Shall we teach English as a subject or as a language? *Journal of Education Practice and Innovation*, 1(1), 10-17.
- Meseret, M. (2012). Instructors' and Students' Perceptions and Practices of Task-Based Writing in an EFL Context. Unpublished PhD thesis, Addis Ababa University, Addis Ababa.
- Mijena, E. (2014). Practices and impeding factors in the teaching of English to young learners' in the first cycle public primary schools at Nekemte Town, Western Ethiopia.
- MOE . (2013). National Standards for the English Language Teachers. Addis Ababa, Ethiopia
- Paik, J. (2008). Learning English, imagining global: The Narratives of early English education experiences in South Korea. *The International Journal of Learning*, 15(10), 71-78.
- Patil, Z. N. (2008). Re-thinking the objectives of teaching English in Asia. *Asian EFL Journal*, 10(4), 227-240.
- Pinon, R. & Haydon, J. (2010). The benefits of English language for individuals and the societies. quantitative indicators from Cameron, Nigeria, Rwanda, Bangladesh and Pakistan. A custom report compiled by Euro monitor International for the British Council.
- Rasheed, S., Zeeshan, M. & Zaidi, N. (2017). Challenges of teaching English language in a multilingual setting: an investigation at government girls' secondary schools of Quetta, Baluchistan. *International Journal of English Linguistics*, 7(4), 115-125
- Ruiz-Cecilia, R. And Resla, R. (2012). Narrowing cultural boundaries in the EFL classroom: Fairy tales from India.
- Schweers Jr. and William, C. (1999). Using L1 in the L2 classroom. *An English Teaching Forum*, 37(2), 6-9.

The Matrix of Usucaption Modality under Ethiopian Property Law Zemenu Tarekegn Y. Debre Markos Un, t*

Abstract

Usucaption is recognized as one modality of acquiring sole ownership under Ethiopian property law. However, there is lack of clarity on the applicability and the subject matter of the doctrine of usucaption. The issues, especially, whether the adverse possessor can be an owner of the immovable automatically at the end of 15th years and on other cautions to invoke usucaption make the subject matter unclear and the applicability uncertain. The objective of this article is to implicate and fill the conceptual gaps in the incorporation and application of usucaption under Ethiopia property law. To meet this objective, the article assesses different related literatures, laws and federal cassation decisions particularly file nos. 53328 and 89148 from vol. 11 and 16, respectively. It specifically examines article 1168 of the 1960 civil code of Ethiopia critically. By doing so, it addresses different questions on usucaption. Such as, how can the adverse possessor acquire title deed after the fulfillment of the required components of usucaption? The law sets 15 years as statute period. However, it may not secure the adverse possessor's right as far as s/he does not possess the immovable at the time of dispute. Therefore, how long should the adverse possessor remain with his possession, even after the lapse of the statute period, is another pertinent issue. The article ultimately reveals that adverse possessor shall always remain in possession even after the lapse of statute period. Continuous possession, even after those 15 years of statute period, is indispensable as the doctrine of usucaption is applicable only for those who are in possession. The adverse possessor cannot require title deed, from concerned authority, for the mere fact that he /she met the requirements of usucaption. In practice, courts used to cite article 1168 for possessions that are not hostile. The requirement of

adversity of the possession (hostile possession), as witnessed in the decision of cassation division of the federal Supreme Court of Ethiopia, under file no. 89148, is overlooked. The court cited article 1168 as relevant provision for possession that is not hostile. Thus, the practice is in discordance with the theoretical framework of usucaption. Hence, courts shall apply the concept of usucaption properly.

Key words: usucaption, adverse possession, acquisition, ownership, immovable objects

*Assistant Professor in business law, LL.M in Information Communication and Technology law from NRCCL, University of Oslo, Norway; LL.M in business law from Addis Ababa University, Ethiopia. Currently, he is employee of DebreMarkos University, school of law and first class attorney and consultant-in-law in Amhara regional state. For comments, he can be contacted via email at: ztafrica@gmail.com. I thank anonymous reviewers for their critical comments and DMU editorial.

Introduction

It is under the profession's domain that acquisition or transfer may create ownership. Unlike to transfer, acquisition enables the acquirer to establish ownership right that is free from defects and original. Usucaption is an acquisitive prescription model that the adverse possessor acquires new title of defect free ownership for the fact that a certain period is lapsed to his/her favor.¹¹

Many legal scholars wrote on usucaption. They mainly concentrate, however, on the adversity nature of usucaption, validity test and intention requirements. Professor Helmholz, in the article titled as "Adverse Possession and Subjective Intent"¹² underlines the necessity of fulfillment of the required period of statute limitations and the motives or the state of mind of the possessor does not matter.¹³ Helmholz further notes the requirement of hostility, however, under good faith sentiment in usucaption.¹⁴ The Ghent University's Bouckaert and Depoorter underscore that "for the rules of adverse possession to apply...the possessor must hold the property actually, exclusively, continuously, openly and notoriously, adverse to the owners, for the statutorily defined time period."¹⁵ Sirmans and Miceli discussed the economics of adverse possession.¹⁶ However, the aforementioned scholars and others focus only on the requirements to be met to invoke usucaption. However, different issues remained untouched. For example, holding/ possessing the immovable cannot be a ground by itself to require title deed. The adverse possessor either may get title deed with the help of wrong hands or shall wait for a court decision in his favor to

¹¹ Garner Bryan A, Black's Law Dictionary, 8th ed., Thomson West, 2004, (first published in 1891) p. 1762 However, this definition is misleading as it only concentrates on time framework only. It should be clear that usucaption is not only about the lapse of time. The spirit of article 1168 tells us that the mere lapse of time may not entitle an adverse possessor to claim usucaption. The statute period of usucaption may not debar from bringing lawsuits. It, rather, enables the adverse possessor to plea for the court, as time of hearing, that he fulfilled the elements of usucaption. Thus, this statute period is enabling point for the adverse possessor to claim ownership for that he fulfilled the requirements of usucaption. Therefore, s/he must possess for 15 years without interruption, the possession shall be adverse and pay taxes in his/her own name for fifteen years continuously.

¹² Helmholz Richard H., Adverse Possession and Subjective Intent, Washington law review, vol. 61 issue 2, 1983, P 331-358

¹³ Id p. 331

¹⁴ Id p. 337-338

¹⁵ Depoorter Ben W.F., Bouckaert Boudewijn, Adverse Possession - Title Systems. P.19. Available at: <https://reference.findlaw.com/lawandeconomics/1200-adverse-possession-title-systems.pdf>. Accessed on: 9/19/2019

¹⁶ Sirmans and Miceli, an economic theory of adverse possession, international review of law and economics. Vol. 15, 1995, pp. 161-173

apply for title deed. In the later case, the only option for adverse possessor is to wait for until record owner brings an action against him. This, in turn, needs to know the right time for the adverse possessor to acquire title deed and the necessity of continuous possession even after the lapse of statutory period.

On the other hand, when we see Ethiopian property law, Usucaption is one modality of acquiring sole ownership under Ethiopian property law.¹⁷ It is noted that the legal provision governing usucaption is not transplanted from the continental legal system. Rather, the concept is adapted from Ethiopian customary aw¹⁸ and considered as an exception to “the things of the past” captivation.¹⁹ However, the matrix of usucaption is not well established and there is a dearth of literature, in this regard, in Ethiopian legal discourse. Similarly, when we see the legal framework coverage, it is only a single provision that is devoted to the concept. As a result, it remains one of the confusing concepts under Ethiopian property law.

To address the issues meaningfully, the remaining part of this article is organized in to two sections. The notion of usucaption /acquisitive prescription is briefed under section 1. Section 2 discusses the matrix of usucaption under Ethiopian property law. Finally, it has concluding remarks and indicates ways forward.

1. The notion of usucaption/acquisitive prescription/

Prescriptions may be acquisitive or extinctive in its nature.²⁰ Acquisitive prescription enables the defendant to acquire a certain right after the lapse of period of time that is legally specified in advance whereas extinctive prescription entitles the defendant to be liberated from his obligations towards the plaintiff.²¹ Acquisitive prescription, by its nature, requires the existence of uninterrupted possession by the defendant for a given period without creating any legal relationship with the plaintiff over the subject matter.²² On the other hand, extinctive prescription requires prior legal relationship between the defendant and plaintiff in which the later has created right over the former and the former owe obligation to the later. Moreover, unlike to the case of transfer of ownership in which the title of the transferee is dependent upon the title of the transferor, the right that is acquired by acquisitive

¹⁷ Civil code of the Empire of Ethiopia, 1960, , Article 1168 , proc. No. 165/1960, fed. Neg. Gaz. (Extraordinary issue) 19th year, no.2. According to Ethiopian civil code, there are four modalities of acquisition of sole ownership. These are occupation, possession in good faith, usucaption and accession.

¹⁸ Aubry and Rau, v.2 p. 354 & ff. as cited in Dunning, property law of Ethiopia: materials on the study of book III of the civil code, H/Sillasie I University, Addis Ababa, p. 67. The reader may see also prescription proclamation in civil matters, 1948, article 17, proc. no. 97/1948 fed. ,Nega. Gaz. , year 7, no. 6

¹⁹ Schiller A.Arthur, customary land tenure among the highland peoples of the northern Ethiopia, a bibliographical essay, The Journal of Legal Pluralism and Unofficial Law, vol. 1 issue 1, 1969, P. 2

²⁰ Supra note 8

²¹ Supra note 8

²² Adversity or hostility of possession is mandatory to invoke usucaption. The possessor should not get the possession through permission from record owner. He shall possess without any permission from the owner but with good faith belief that he has a right to do so. Please see Helmholtz Richard H., Adverse Possession and Subjective Intent, Washington university law review, vol. 61 issue 2. Pp. 337-338. This means usucaption is not a defense when possession originates from true record owner. However, as indicated somewhere below, the adversity or hostility requirement of usucaption is overlooked in Ethiopian courts. Please see *ዓብዱል መሐመድ እና ወ/ሮ ዘበነይ ሃይሌ ፣ የፌዴራል ጠቅላይ ፍ/ቤት ሰበር ሰሚ ችሎት፣ መ.ቁ. 53328, 2003 ዓ.ም* and *አቶ ክፍሉ ገ/ማርያም እና ወ/ሮ አስመራት መኮነን፣የፌዴራል ጠቅላይ ፍ/ቤት ሰበር ሰሚ ችሎት፣ መ.ቁ. 89148, 2006 ዓ.ም*.

prescription is original and is free from any defects that may be a stumbling block for the record owner. What makes the two forms of prescriptions similar is that both require the lapse of time that is uninterrupted. The justifications behind such prescriptions are also similar. The morale of these prescriptions is to make favour towards an active and vigilant possessors over an imprudent and inactive owners who have slept over their right for such long period of time and to minimize the fabrication of false evidences as time lapses.²³ One can name these persons as defecato and dejure owners. The former is an active one that he controls the immovable and take care of it, pays tax, whereas the later is ignorant one who never knows what is going on his property for that long period. Therefore, it is justifiable for the legislator to favour the defacto owner over the dejure owner.²⁴

When we trace it back, Romanian law originally introduced acquisitive prescription, “longi temporis praescriptio”, before 4th century in which an original entitlement over a plot of land is barred by uninterrupted possession of the same by the defendant for 10 or 20 years²⁵. It is also believed that the concept of acquisitive prescription was introduced to other common law countries, like UK, in higher middle ages around 12th century²⁶. It is also recognized as a major means of obtaining property right under Spanish law.²⁷

2. The matrix of Usucaption

As noted above, unlike to many of the provisions of the civil code, article 1168 was not directly transplanted from French civil code. It took rather the precedent of the customary law of Ethiopian people.²⁸ This makes usucaption an exception to other customary laws of Ethiopia that are made “a thing of the past”²⁹ by the 1960 civil code of Ethiopia.

²³ Andualem Eshetu Lema, Revisiting the Application of the Ten Year General Period of Limitation: Judicial Discretion to Disregard Art 1845 of the Civil Code, bahirdar university journal of law, vol. 6 no. 1 p. 11-12. The university of Connecticut’s Sirmans and Miceli put four justification /standard reasons for usucaption. These are evidence decays over time, record owners shall face penalty for being imprudent, transaction costs are reduced and protection of reliance for adverse possessors. See Sirmans and Miceli, an economic theory of adverse possession, international review of law and economics, vol. 15, 1995, p.161

²⁴ Dunning, property law of Ethiopia: materials on the study of book III of the civil code, H/Sillasie I University, Addis Ababa, p.66.

²⁵ Neil Duxbury, Acquisitive Prescription and Fundamental Rights, University of Toronto Law Journal, Volume 66, Number 4, 2016, p. 476. It is 10 years if parties are living in same district. It is 20 otherwise. It is noted that different countries endorsed the concept of acquisitive prescription though the length of time for prescription differs across jurisdictions.

²⁶ Ibid

²⁷ Spanish Civil Code. 2013, Art. 609 para. (3).

²⁸ It is clear that, from the reading of article 3347(1) of the civil code, customary law of Ethiopia has been expressly repealed. The author is of opinion that article 3347 has killed the original and indigenous legal cure of disputes in Ethiopia. It has brought a tendency among Ethiopian that the customary law was barbaric and adherence to that is same. However, the key for dispute settlement is still in the custom, which is made inapplicable in the civil code of Ethiopia.

²⁹ Supra note 9

2.1. Basic elements of usucaption

In this section, the paper addresses the basic elements of defense of usucaption under Ethiopian law. It scrutinizes the entirety of the elements in detail.

A. Immovable good

Usucaption as a modality of acquiring sole ownership, it is applicable only on immovable goods.³⁰ When we see article 1168 of the civil code, it states that usucaption is applicable on immovable goods. When we, in return, see the definition of immovable goods, it includes buildings and land.³¹ However, land is under public ownership³² and, therefore, it cannot be acquired by usucaption³³ modality. Therefore, it is only applicable on other immovable, buildings.³⁴

Adverse possession

Possession is key requirement to acquire ownership via acquisitive ownership model. However, it is not only possession required but the nature of the possession matters too. Legally speaking, when we utter the word possession we think that the possession is legal one fulfilling the requirements of enforceable possession. However, legally established possession is not relevant here for acquisitive possession, usucaption. If there is a legal relationship between the defacto and de jure owners in creating the possession, we cannot invoke article 1168. Moreover, we cannot argue that the owner is imprudent /inactive on his property and ultimately we cannot find a justification to bar an entitlement against one to create new ownership title to other. Thus, the defendant has no ground to invoke usucaption on legally established possession.

³⁰ Other modalities of acquisition do have different subject matter of property. Occupation and possession in good faith are applicable on only ordinary movable goods whereas accession is applicable on both movable and immovable goods. Please see supra note 7 articles 1152, 1161, 1168 and 1270.

³¹ Supra note 7 Article 1130

³² Constitution of the Federal Democratic Republic Of Ethiopia, 1995, articles 40(3) and 97(2), proc. No. 1/1995. Fed.Neg.Gaz., year 1, number 1.

³³ According to Article 1455 of the civil code, things forming part of public domain cannot be acquired by usucaption or possession in good faith. However, we may not totally outlaw the applicability of usucaption provision of the civil code on land. We may extend the rule to usufructuary rights of the farmers on the land. Please see supra note 13, p.7. It is also important to examine the prescription provided under Amhara regional state rural land administration and use proclamation (as amended). The repealed proclamation had provided 10 years of prescription. However, the recent rural land administration and use proclamation no. 252/2017 under article 55 prohibits invoking period of limitation. This may be taken as extended protection for constitutional rights of farmers against eviction.

³⁴ According to article 1130 of the Amharic version of civil code, it is land and house, which are regarded as immovable. The construction of this article indicates that it is exhaustive. Even though it is not authoritative, it is the English version of the civil code which gives a room for interpretation since the terminology is “building” unlike to its Amharic counter. Therefore, the term building could include houses and other works of art including canals, temples, bridges, etc.

Therefore, it requires the possession to be adversary. Adverse possession³⁵ is a kind of possession where it is made in an encroachment in hostile³⁶ manner. The possession should be made without getting any permission and at same time without any objection from. It is only when these requirements are fulfilled that we can genuinely argue that the owner was imprudent that he didn't know what is going on his property.

It should be noted that adverse possession is not similar with a possession acquired through violence. If there is violence, there is objection on the part of the owner. This in turn implies that the owner is not imprudent. Rather, the term adverse should be understood that the “visual manner that is inconsistent with the title of the owner”³⁷. Therefore, the adverse possessor occupies the buildings without securing the consent from or extending compensation to the owner.³⁸

B. 15 years of uninterrupted possession

In this component, two points are relevant: specified time and continuance. Under Ethiopian property law, 15 years is specified.³⁹ These 15 years shall be counted continuously without any interruption. This means the possession should be uninterrupted. Possession may be interrupted in three ways. The first is when the owner brings an action against the adverse possessor within 15 years. The second ways of interruption occurs when the adverse possessor gives recognition to the owner in whatsoever form. Recognition may be given either by paying rent, paying tax in owner's name or giving hint to nearby residents that the adverse possessor is mere holder of the building. The third way of interruption is discontinuance of possession by the adverse possessor. In this case, even though there is no recognition to and action by the owner, mere discontinuance affects adverse possessors claim to be an owner after the lapse of that period. However, temporary hindrance shall not amount to interruption.⁴⁰

C. The possession shall be defect free

³⁵ Acquisition by adverse possession is recognized under both common law and civil jurisdictions. Please See British institute of international and comparative studies, adverse possession, Report by the British Institute of International and Comparative Law for Her Majesty's Court Service, 2006, p.3.

³⁶ “For possession to be hostile in its inception, no spirit of animosity or hostility is required. The hostility requirement is consistent with belief on the part of the adverse possessor that the title is rightfully his. As long as the possession does not originate with the permission of the record owner, hostility, the first and seemingly negative requirement of the law on the subject, is perfectly compatible with a good faith belief on the possessor's part that he has a right to be there.” Please see supra note 2, p. 337-338. From Helmholtz assessment we understand good faith is one basic requirement of usucaption. However, this remains debatable as there are others who consider possessor's state of mind irrelevant to assess usucaption. Please see supra note 5, P.19

³⁷ Supra note 5,p.19

³⁸ Ibid

³⁹ Supra note 7. Please note that there is a difference in time interval across jurisdictions. For example, according to Romanian law, it may be 10 years or 20 years, as the case may be. See supra note 8. France -30 years, Spain and the Netherlands - 10-20 years, Germany -30 years, Canada - max 60 years, US – 5-40 years. see supra note 13, p. 4-12

⁴⁰ Supra note 7,Article 1142. We can also see supra note 7, article 1851 and *ወ/ሮ አልማዝ ተሰማ እና እነ አቶ በየነ ወ/ማካኤል ፣ የፌዴራል ጠቅላይ ፍ/ቤት ሰበር ሰሚ ችሎት፣ መ.ቁ. 43636, 2002 ዓ.ም ፡፡*

Even though adversity is required from the defendant, possession shall be free from any defects. There are different causes, which are commonly known as the defects of possession under Ethiopian law. These include interruption, clandestine, dubious, precarious, violence.⁴¹

As noted above, the 15 years period of possession shall be in uninterrupted way that the defendant shall always ascertain that the building is in his possession, either under his direct control or through third party mere holder who is controlling on behalf of the former. Therefore, by any means he should secure his continuous possession.

The possession may not be also clandestine or dubious. It shall be exercised in an open and clear way that the community should believe that the defendant has defect free possession over the building. Therefore, there shall be no confusion among the community that the possession by adverse possessor is whether mere holder or possessor. This requires the adverse possessor to act as if he is righteous person to avoid that confusion.

Similarly, the possession shall be free from violence. The adverse possessor may not enter in to the premise by force. Adverseness presupposes the absence of consent from the owner whereas violence presupposes use of force against the objection of the owner. Therefore, if the possession is acquired by violence, it is not defect free thereby the adverse possessor loses the entitlement.

D. Payment of tax in one's own name for 15 years

The last requirement of the modality is the payment of tax for 15 years in one's own name. This requirement is an indicative to the justification provided under mandating usucaption as ground to entitlement to the adverse possessor; promoting the one who is socially responsible over an imprudent owner. It is because this indicates that the adverse possessor has carried out social responsibility by paying different bills over the building. However, the paradox is how the adverse possessor can pay those bills in his name. It seems practically impossible to do so unless there is a short cut, corruption.⁴² Generally, this requirement seems a complimentary requirement to other requirement, 15 years of uninterrupted possession.

2.2. Critical questions on usucaption

We have very critical and debatable question on usucaption. These include can the adverse possessor be a plaintiff to require title deed? When shall the adverse possessor acquire title deed? Moreover, how long is possession required even after 15 years of statute period? Let us see these questions one by one in detail.

2.2.1. Can the adverse possessor be a plaintiff?

The critical question is that can the adverse possessor be a plaintiff over the building to claim title deed? Let us see the scenario here: assume that the adverse possessor has fulfilled all the elements prescribed under the code. He is in the 16th years of possession over the building. A negotiation took place between the adverse possessor and the record owner. They concluded lease agreement, the record owner being lessee. However, the owner refused to pay and even to leave the building. In this case, can the adverse possessor bring an action against the record owner? Can

⁴¹ Supra note 7, Articles 1146, 1142 and 1147

⁴² It is clear that the bills are issued in the name of the owner and any subsequent payments follow that. Therefore, it is difficult for the adverse possessor to get the bills issued in his name unless there is a corruption. The corruption may be either helping adverse possessor to transfer the title deed to his own name or simply changing bill name.

he be a plaintiff? As it is a legal consonance, for a given person to be a plaintiff, cause of action and vested interest requirements, among others, are needed. The cause of action for petitory action is title deed⁴³ or administrative letter⁴⁴ given by concerned administrative officials. When we see the case, the adverse possessor lacks both. The lease agreement cannot serve as a cause of action to claim ownership over the building. The adverse possessor cannot also invoke possessory action, as he does not possess it. Therefore, He has no cause of action to institute an action against the true owner.

The other very important point with regard to the argument that the adverse possessor cannot be a plaintiff is the justification that emanates from the nature of acquisitive prescription itself. Acquisitive prescription, by its nature, is applicable to maintain a right that is in the control of the defendant; it is not to snatch away rights from holders.⁴⁵

Moreover, prescription is a preliminary objection. As it is known, prescriptions can invoked only by defendants in a proceeding. Therefore, the adverse possessor can only raise usucaption when he is a defendant in a suit instituted by the owner over the building. This means the adverse possessor cannot be a plaintiff in whatsoever way.

2.2.2. When should so the adverse possessor acquire title deed?

If the adverse possessor cannot be a plaintiff to the case, the other indispensable question to the issue at hand is so when should the adverse possessor acquire title deed over the building he adversely possessed? Certificate of ownership gives a guarantee to the owners. Same guarantee is desirable to the adverse possessor after those 15 years. To get that title deed, the adverse possessor should have a legitimate cause to bring before title deed issuing authorities. The mere lapse of 15 years is not sufficient to ascertain entitlement. The judicial body shall ascertain such an entitlement for the adverse possessor. This in turn requires an action before the court. The right person to bring such action is the owner. Therefore, the adverse possessor must wait for the true owner to bring an action against him. It is only where the true owner brings an action against the adverse possessor that the later could raise usucaption in preliminary objection form. If the court rules for the objection, the ownership title shifts. Now, it is right time for the adverse possessor to take the court's decision as a ground to require title deed before administrative body. This is the only way to acquire title deed over the building.

2.2.3. The necessity of possession even after 15 years

The way of acquiring title deed stated above imposes additional burden on the adverse possessor to remain with his possession for indefinite period. The 15 years time is relevant as only where an action is brought against the adverse possessor who is still in possession of the building. It means usucaption cannot serve as cause of preliminary objection for an adverse possessor who is not in possession of the building right at that time. This makes possession relevant even after 15 years. Therefore, the lapse of 15 years does not give guarantee to adverse possessor. It, rather, requires the adverse possessor to be vigilant always and remain in continuous possession.

3. Conclusions

⁴³ See supra note 7, Article 1195. A plaintiff claiming ownership right over a certain immovable shall have title deed issued in his name.

⁴⁴ ወ/ሮ ዘውዴ ገ/ስላሴ እና ወ/ሮ ህይወት ባህታ ፣ የፌዴራል ጠቅላይ ፍ/ቤት ሰበር ሰሚ ችሎት፣ መ.ቁ. 36320, 2001 ዓ.ም

⁴⁵ ዘመኑ ታረቆኝ ይመኑ፣ የኢትዮጵያ ንብረት ህግ መሰረተ ሃሳቦች፣ፋርኢስት ትሬዲንግ ኃ.የተ. ግል ማህበር፣ 2006፣ ገጽ 113

Literatures on usucaption concentrate on the requirements to be met and debate on the state of mind required from adverse possessor. Many critical questions like whether the adverse possessor can be an owner of the immovable automatically at the end of 15th years and on other cautions to invoke usucaption such as the necessity of continuous possession even after the lapse of statutory period left unexplained. Ethiopia's legal literature and legal framework devotion to the doctrine of usucaption is shallow and ambiguous respectively. There is a need to wait for the record owner's action against the adverse possessor and thereby court's decision in favor of the later to acquire title deed. The adverse possessor cannot be a plaintiff and require title deed for the mere fact that he /she met the requirements of usucaption. Thus, continuous possession even after those 15 years of prescription (statute period) is indispensable.

Moreover, the relationship between record owner and the adverse possessor shall be hostile. Usucaption shall not also be understood as a mere period of limitation that bars claim solely based on the lapse of statute period.

When we see the practice, on the other hand, the requirement of adversity of the possession (hostile possession), as witnessed in the decision of cassation division of the federal Supreme Court of Ethiopia, under file no. 89148, is overlooked. The federal courts used to cite article 1168 of the civil code as relevant provision for possession that is not hostile. Thus, the practice is in discordance with the theoretical framework of usucaption. Hence, courts shall adhere to the conceptual framework of usucaption. Courts should particularly check that there exists hostile relationship between the record owner and the adverse possessor.

Wind Energy Data Analysis and Resource Mapping of East Gojjam Zone, Amhara Region.

Addisu Dagne¹, Aynalem Worku² Debre Markos University, Institute of Technology

Abstract

Knowledge of wind energy regime is a pre-requisite for any wind energy planning and implementation projects. The wind energy potential of Ethiopia is estimated to be about 10,000 MW, but only less than 8 percent of it is utilized so far. One of the reasons for this low utilization of wind energy in Ethiopia is absence of a reliable and accurate wind atlas. Development of reliable and accurate wind atlas helps to identify candidate sites for wind energy applications and facilitates the planning and implementation of wind energy projects. The main purpose of this research project is to analyze the available wind energy data in East Gojjam Zone, Amhara Region, Ethiopia and develop a resource map which could help planners, potential investors and researchers in identifying potential area for wind energy applications in the zone. In this research project wind data collected over a period of two years from Debre Markos and Motta metrological stations was analyzed using different statistical software like Excel, WindRosePRO3 and MATLAB to evaluate the wind energy potential of the area. Average wind speed and power density, distribution of the wind, prevailing direction, turbulence intensity and wind shear profile of each site were determined. Wind Atlas Analysis and Application Programme (WAsP) was used to generate the wind atlas of the area and to develop the wind speed and power density maps. Appropriate Wind turbines were selected and annual energy production was estimated on selected wind turbine sites in the zone. The measured data analysis conducted indicates that the average wind speeds at 10 meter is about 2.44 m/s in Debre Markos site and 2.41 m/s in Motta site. The mean power density at 10 meter was determined to be 17.82 W/m² and 16.20 W/m² in Debre Markos and Motta sites respectively. The prevailing wind directions in the zone are North East, South East, South West and North West. The wind resource map developed by WAsP at 50 meters indicated that the zone has mean wind speed and power density of 5.35 m/s and 203 W/m² respectively at 50 meter above the ground level. Most of the area of zone is covered by Class 1 sites with power density less than 200 W/m², but there are some potential sites in zone with class 2 and 3 sites with mean power density reaching up to 400 W/m².

Keywords - Wind Speed, Wind Power Density, Wind Atlas, Wind Resource Maps

I. INTRODUCTION

Although Ethiopia doesn't have significant fossil fuel resource, it is endowed with huge amount of renewable energy resources such as hydro, wind, geothermal and solar power. The hydroelectric, wind and geothermal energy resources are estimated to be 45,000 MW, 10,000 MW, and 5,000 MW respectively. These resources can be harvested to generate approximately 60,000 MW of electricity [4].

Ethiopia's current electrical energy supply system is from its consists 14 hydro power plants, six standby diesel generators, one geothermal and three wind farm power plants with installed capacity of 3,814.20 MW, 99.17MW, 7.30 MW and 324 MW respectively with a total of capacity of 4,244.67 MW. Ethiopia's current electrical energy supply is mainly from hydropower with 90% of the total installed capacity from hydropower power plants, 8 % from the wind farms and rest 2 % is from diesel generators and geothermal power plants. The country's installed capacity is expected to reach 10,000 MW when the country's major ongoing hydropower, wind power and geothermal projects are completed in the coming years [4].

Due to the fast-economic development of the country in recent years, Ethiopia has been looking for more electrical energy production options to satisfy the high demand of electricity. Wind energy is a good viable option in this regard due to its complementary nature with hydropower. During the rainy season the country sees low wind and in the dry season the potential of wind becomes high. This creates favorable conditions to use both. Combining the two, wind and hydropower, will add value to the hydropower plants by elongating their operational time (water saving through wind).

The main objective of the study reported in this paper was to conduct wind energy resource assessment and develop wind atlas and resource maps in East Gojjam Zone, Amhara Region, Ethiopia.

II. METHODOLOGY

A. Description of the Study Area

East Gojjam is one of the eleven administrative zones of Amhara Region. Its capital Debre Markos town is located 300 Kms from the country's capital Addis Ababa and 265 kms from the regional capital Bahir Dar extending between $9^{\circ}50'10.69''$ N to $11^{\circ}13'48.31''$ N degrees latitude and between $37^{\circ}02'46.3''$ E to $38^{\circ}31'41.04''$ E degrees of longitude. The zone is bordered on the south by the Oromia Region, on the west by West Gojjam zone, on the north by South Gondar zone, and on the east by South Wollo zone. The bend of the Abay River defines the Zone's northern, eastern and southern boundaries. The zone covers an area of 14,344 square kilometers and has perimeter 695.74 kilometers. The elevation of the zone ranges from 785 m above sea level in *Abbay* gorge to highest point of 4093 m above sea level in the *Çhoke* Mountains. The topography of most of East Gojjam is characterized by mountainous and plain lands, constituting forty-eight and forty percent of the total area respectively. Of the total area of the Zone, 80.73 percent is categorized under *däga* (high land) and *wäynadäga* (medium land).

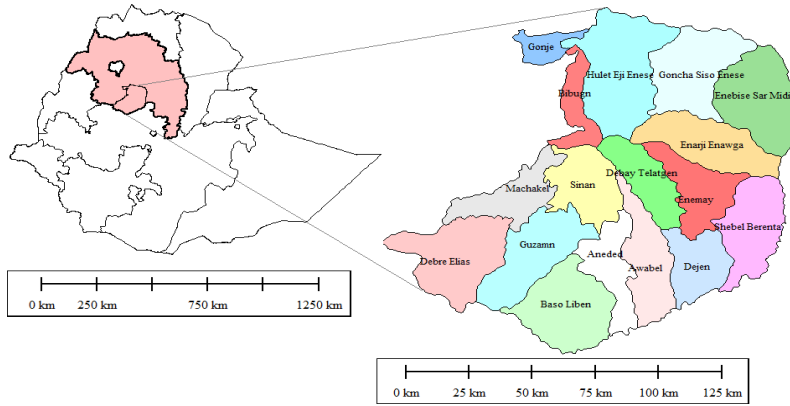


Figure 1. Map of study area

B. Data Collection, Screening and Validation

Wind speed and direction data recorded at a time interval of 15 minutes in Debre Markos and Motta metrological stations was used for this study. All the collected data was inspected for completeness and any erroneous records. The time series of the data was checked to look for missing data values and a number of data validation routines were used to screen all the data for suspect and erroneous values. General system and parameter checks were used for data screening and validation. The validation checks include: continuity test to identify missing records in the data, inspection of the average wind speed at each 15-minutes interval records, inspection of negative and unrealistic high wind speed and wind direction records and observation of vertical profile of wind speed on same mast (negative and undefined wind shear coefficients).

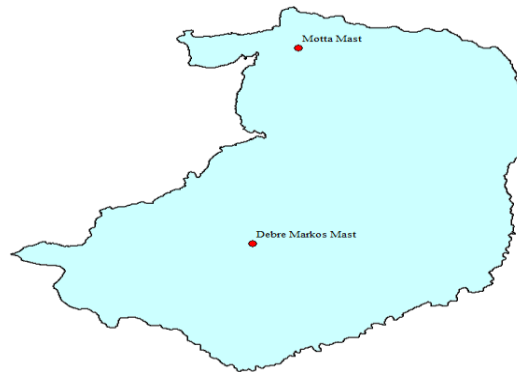


Figure 2. Wind measuring mast locations in East Gojjam

Table 1. Location of wind measuring masts in the Zone

Wind Measuring Station	Location		Altitude [m]	Height a.g.l [m]	Available Data Records	
	Latitude	Longitude			From	Until
Debre Markos	10.32587° N	37.7395° E	2458	2, 10	21/03/2016	13/12/2017
Motta	11.0742° N	37.8704° E	2413	2, 10	21/03/2016	20/11/2017

C. Statistical Data Analysis

i. Average Wind Speed

The wind characterization in terms of speed, direction and wind power is the first step to obtain the initial feasibility of generating electricity from wind power through a wind farm, in a given region. The most critical factor influencing the power developed by a wind energy conversion system is the wind speed. The average wind speed V_m is given as:

$$V_m = \frac{1}{n} \sum_{i=0}^n V_i \quad (1)$$

Where V_i is the wind velocity and n is the number of wind data records. The average wind speed is calculated at hourly, daily, monthly and annual interval.

ii. Wind Power Density

The wind power per unit area, P/A or wind power density at interval i is given by:

$$\frac{P}{A} = \frac{1}{2} \rho v_i^3 \quad (2)$$

Where V_i is 15-minute average wind speed in m/s and ρ is air density. The power density is calculated for each 15-minute average wind speed using above expression and the annual average wind power density is thus the average of the sum of the power density of the 15-minute data. The wind speed and power density at a certain height determines the wind power class of the site. The wind power class of a site is determined as per the standard classification reported in [2].

iii. Wind Shear Coefficient

The wind shear coefficient is calculated assuming power law relationship at the two heights. The coefficient α is found from:

$$\alpha = \frac{\ln(v_2) - \ln(v_1)}{\ln(z_2) - \ln(z_1)} \quad (3)$$

Where V_1 is the wind speed at height z_1 and V_2 is the wind speed at height z_2 .

iv. Turbulence Intensity

The average turbulence intensity of the sites was calculated by taking the average of the individual turbulence intensity values of 15 minutes records which were calculated by dividing the standards deviation with the average speed of each record. The turbulence intensity TI of each record is given from [2]:

$$TI = \frac{\sigma}{V} \quad (4)$$

Where σ is the standard deviation of wind speed and V is wind speed. The overall average turbulence is found in similar way to that shown for wind speed. TI is a relative indicator of turbulence with low levels indicated by values less than or equal to 0.10, moderate levels to 0.25, and high levels greater than 0.25.

D. Modeling with WAsP

i. Observed Wind Climate (OWC)

WAsP (Wind Atlas Analysis and Application Program) was used to generate the Wind Atlas and to develop the wind resource map of the Catchment. The flow modeling of WAsP is discussed in [17]. The various inputs needed in WAsP are Observed Wind Climate (OWC) of sites, Vector Map of the study area and Obstacle Groups to the measuring masts. OWC is a tabular summary of the frequency of occurrence of wind speed and wind direction. The OWC is produced from raw wind speed and direction measurements.

The OWC represents the data converted into Weibull probability density function. The Weibull function is defined using two factors namely the scale parameter A and the shape parameter k. The OWC also shows the wind direction distribution as wind rose. Wind rose diagram shows the distribution of wind in different directions. The wind rose diagram is generated by dividing into twelve equally spaced sectors. The frequency distribution for each sector is calculated and plotted in the wind rose diagram.

ii. Wind Atlas

Wind Atlas is a generalized wind climate of the observed wind climate. The data measured from the wind measuring mast is a site specific data. The Wind Atlas data sets are site independent and the wind distributions have been reduced to certain standard conditions. The Wind Atlas contains data for 5 reference roughness lengths (0.000 m, 0.030 m, 0.200 m, 0.400 m, 0.800 m) and 5 reference heights (10 m, 25 m, 50 m, 100 m, 200 m) a.g.l.

iii. Resource Map

Resource grid is a rectangular set of points for which summary of predicted wind climate data are calculated. WAsP uses data from one metrological mast to generate Wind Atlas and Resource Grid of an area. However, it doesn't support multiple masts. The area of East Gojjam Zone is too large that it is not recommended to use data from a single mast to generate the Wind Atlas and Resource Grid of the zone. In order to use data from different wind measuring masts the zone was divided in to two areas, Debre Markos area and Motta area, equal to the number of masts. The zone was divided in such a way that each area contains one wind measuring mast as shown in Figure 3. Debre Markos area contains Debre Elias, Guzamn, Machakel, Baso Liben, Aneded, Sinan, Awabel, Dejen, Shebel Berenta, Enemay and Debay Telatgen woreda. Motta area contains Bibugn, Hulet Eji Enese, Enarji Enawga, Enebise Sar Midir, Goncha Siso Enese and Gonje woredas. Wind Atlas and Resource map of each area was generated using observed wind climate of each wind measuring mast and vector map of each area. The wind resource map of the zone was found by the combination of the resource maps of each area.

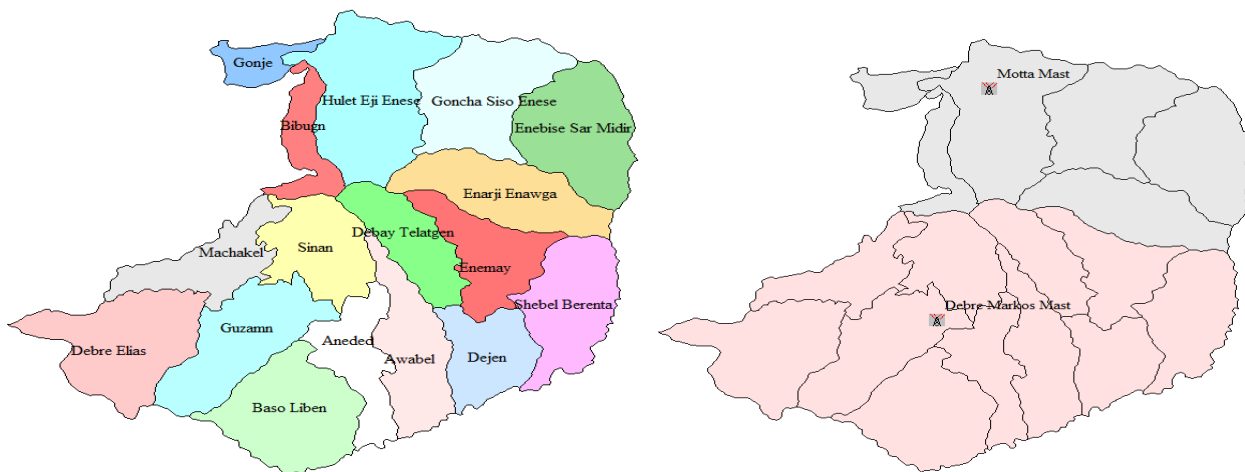


Figure 3: (a) East Gojjam zone map, (b) Divisions of the study area

III. RESULTS AND DISCUSSION

A. Data Screening and Validation

Data screening and validation was conducted as per the procedure discussed in section II-B.

The summary of results of the data screening and validation is shown in Table 2. The data recovery rate was greater than 99% in both measuring stations. Measures were taken to replace the missing and erroneous data records when necessary. A large number of consecutive missing data which runs for up to 6 days was observed in both Debre Markos and Motta sites. There was no measure taken to fill these missing data since it is a large number of data and it is not possible to fill it by average values of the nearby data records. Loss of data also occurred during transfer from data loggers to laptops because the memory card had to be removed. Data lost during transfer of data due to removal of memory card was filled with average data record of the same hour where the data was missing. Wind shear coefficient will be negative if the wind speed at 10-meter height is less than wind speed at 2-meter height and it will be undefined when the wind speed at 10-meter height is zero while the wind speed at 2-meter height is greater than zero. The negative and undefined wind shear coefficients were corrected by power law using the average wind shear coefficient calculated based on overall average wind speeds at 2 and 10 meters. In both Debre Markos and Motta stations some large wind speed records surrounded by smaller records were inspected. This was corrected by replacing the abnormally large wind speed by the average of the wind speed records just above and below the large wind speed.

Table 2. Data screening and validation

Data Measuring Station	Available Data Records (15 minute average)	Total number of missing Data Records	Gross Data Recovery Rate (%)	Number of Negative and Undefined wind shear coefficients
Debre Markos	60,114	551	99.09	2,734
Motta	57,903	552	99.06	1,919

B. Results of Statistical Data Analysis

i. Average Wind Speed and Power Density

The overall average wind speed and average power density of the data during the period were calculated based on the equations discussed in section II-C. The results obtained for each site are shown in Table 3. Included in this table is the maximum wind speed recorded averaged in the 15 minutes measurement interval for each site. The wind power density class at each height for the respective sites is also shown in the table.

Table 3. Average wind speed and power density at the different wind measuring masts

Wind Measuring Mast	Average Wind Speed (m/s)		Maximum Wind Speed (m/s)		Average Wind Power Density (W/m ²)		Wind Power Density Class	
	2 m	10 m	2 m	10 m	2 m	10 m	2 m	10 m
Debre Markos	1.69	2.44	8.54	11.20	7.79	17.82	I	I
Motta	1.64	2.41	9.02	13.14	6.05	16.20	I	I

ii. Wind Shear

The wind shear coefficients were calculated based on the overall average wind speeds at 2 and 10 m using power law as per the equation shown in section II-C. The wind shear coefficient for each site is shown in Table 4. The wind shear profile of the sites was plotted based on the calculated coefficient as shown in Figure 4.

Table 0 Wind shear coefficients

Wind Measuring Site	Wind shear coefficient
Debre Markos	0.18902
Motta	0.23399

iii. Turbulence Intensity

The average turbulence intensity for each site was calculated based on the formula discussed in the methodology section II-C. The results for each site at the two measurement heights are shown in Table 5.

Table 5. Average Turbulence intensity

Wind Measuring Mast	Average Turbulence Intensity	
	2 m	10 m
Debre Markos site	0.698	0.463
Motta site	0.597	0.510

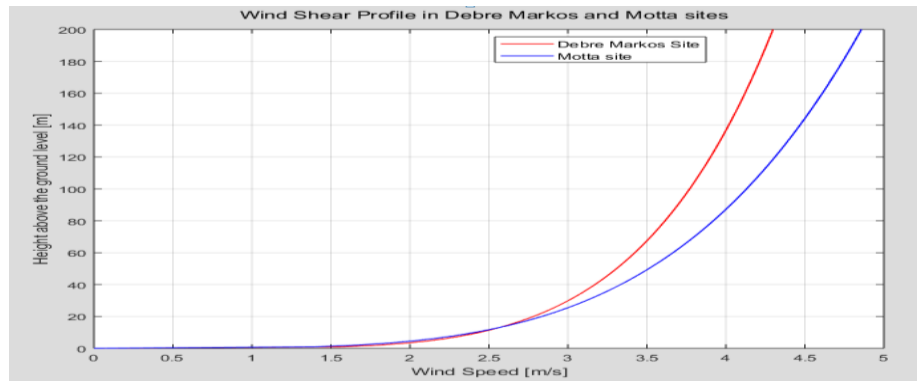


Figure 4. Wind shear profile

In both Debre Markos and Motta sites the average Turbulence Intensity is greater than 0.25 both at 2 and 10 meters which indicate high turbulence intensity in the sites. The reason for the high turbulence intensity in the sites is the low average wind speed available in the sites. Turbulence intensity decreases at high average wind speeds as it is the ratio of the standard deviation to the average wind speed.

C. Results of WAsP Modeling and Analysis

i. Observed Wind Climate (OWC)

Observed wind climate is a tabular summary of the frequency of occurrence of wind speed versus wind direction. The time-series of wind speed and direction data were transformed into a table which describes a time-independent summary of the conditions found at the measuring site using the WAsP software. Figure 5 shows the results for each site based on the 10 m raw data.

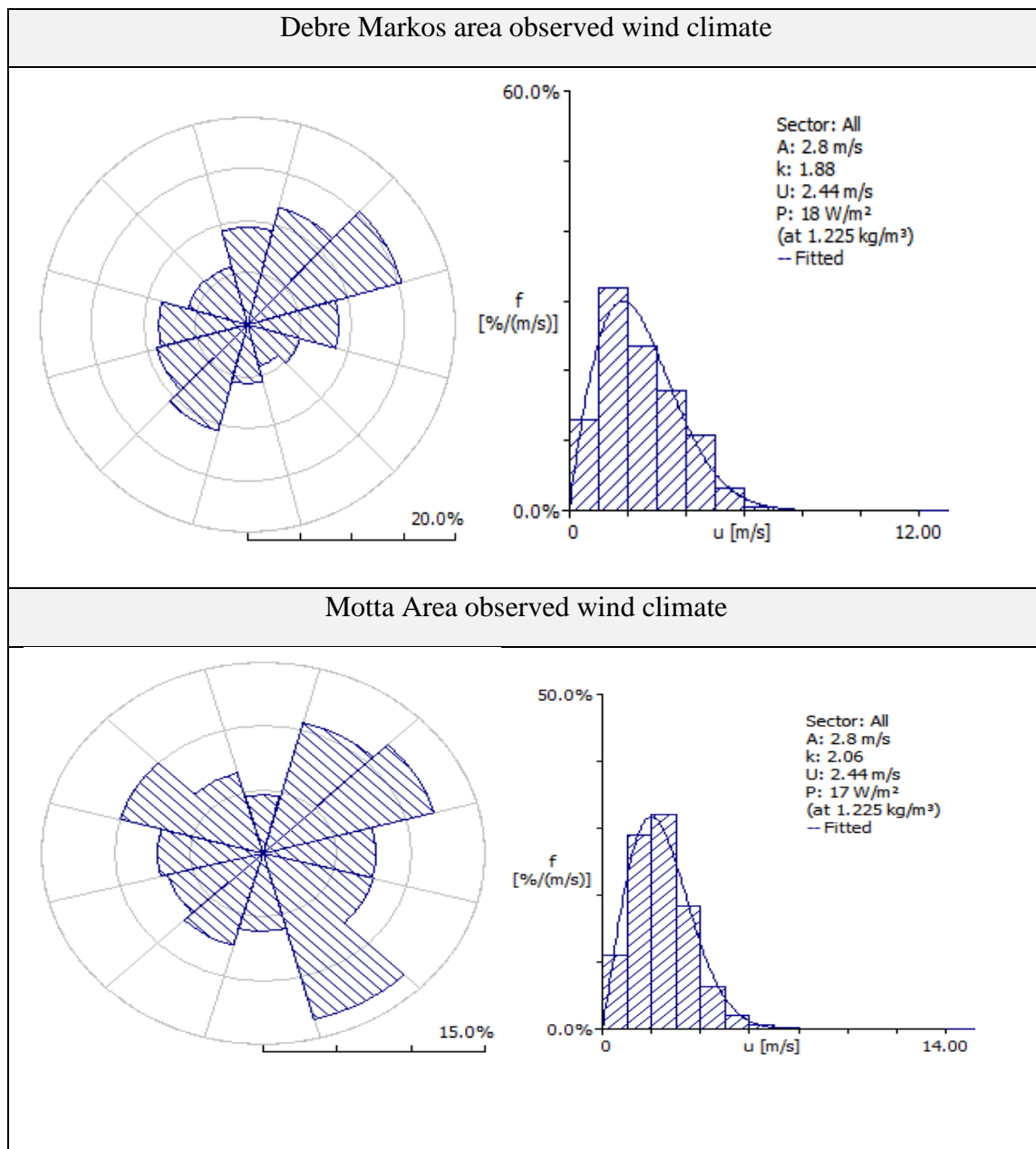


Figure 5. OWC at measuring masts at 10 m a.g.l.

As shown in figure 5 above the OWC result from WAsP has two parts, the wind rose indicating the wind direction distribution and the Weibull function overlaid on the bar chart of the raw data. The Weibull parameters, the average wind speed and power density of the sites are also shown on the side of the Weibull function plot. The results shown as OWC were used as an input to determine the Wind Atlas in each site.

ii. Wind Atlas

Based on the OWC, site independent data sets of the Wind Atlas are found using WAsP software. The results are tabulated for the five reference heights and five roughness lengths in terms of the Weibull parameters A and k; average wind speed and power density. Table 6 shows the summary of the Wind Atlas data sets for each site.

Table 6.Summary of Wind Atlas in Debre Markos and Motta sites

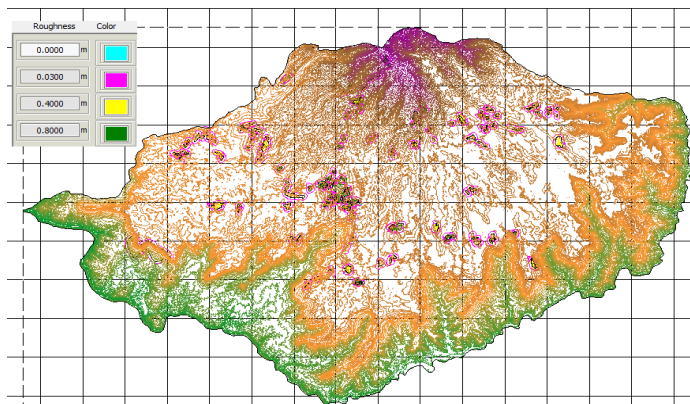
Height [m]	Parameter	Debre Markos site					Motta site				
		Roughness length (m)					Roughness length (m)				
		0.000	0.030	0.200	0.400	0.800	0.000	0.030	0.200	0.40	0.80
10.0	Weibull A [m/s]	5.7	4.1	3.1	2.7	2.3	6.4	4.5	3.5	3.0	2.5
	Weibull k	2.14	1.91	1.91	1.91	1.92	1.87	1.72	1.72	1.72	1.72
	Mean speed [m/s]	5.08	3.61	2.79	2.43	2.02	5.67	4.03	3.12	2.71	2.25
	Power density [W/m ²]	144	58	27	18	10	229	91	42	28	16
25.0	Weibull A [m/s]	6.3	4.9	4.0	3.6	3.2	7.0	5.4	4.4	4.0	3.5
	Weibull k	2.20	2.04	2.02	2.02	2.02	1.91	1.81	1.80	1.79	1.79
	Mean speed [m/s]	5.57	4.31	3.54	3.20	2.82	6.20	4.81	3.95	3.57	3.14
	Power density [W/m ²]	185	92	51	38	26	293	145	81	60	41
50.0	Weibull A [m/s]	6.8	5.6	4.7	4.4	3.9	7.5	6.3	5.3	4.9	4.4
	Weibull k	2.25	2.24	2.19	2.17	2.16	1.95	1.96	1.93	1.91	1.90
	Mean speed [m/s]	5.98	4.99	4.20	3.87	3.50	6.66	5.55	4.69	4.31	3.89
	Power density [W/m ²]	225	131	80	63	46	354	205	125	98	72
100.0	Weibull A [m/s]	7.3	6.7	5.7	5.3	4.8	8.1	7.4	6.3	5.9	5.4
	Weibull k	2.20	2.37	2.39	2.41	2.42	1.92	2.07	2.09	2.10	2.10
	Mean speed [m/s]	6.48	5.90	5.04	4.68	4.30	7.20	6.54	5.60	5.21	4.77
	Power density [W/m ²]	291	206	128	102	79	454	316	197	158	121
200.0	Weibull A [m/s]	8.0	8.1	6.9	6.5	6.0	8.9	9.0	7.7	7.2	6.6
	Weibull k	2.13	2.29	2.32	2.33	2.35	1.88	2.04	2.06	2.06	2.06
	Mean speed [m/s]	7.10	7.21	6.16	5.75	5.31	7.86	7.95	6.82	6.36	5.88
	Power density [W/m ²]	394	387	239	193	152	607	575	361	293	231

iii. East Gojjam Zone Resource Grid at 50 m

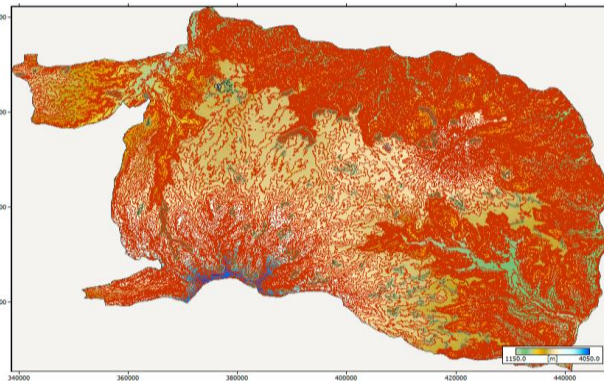
WASP software was employed to plot the resource grid of each zone as defined in section II-D. Inputs required in addition to the Wind Atlas are the vector map, roughness map and obstacle groups around the measurement mast. All the above required data were prepared for each zone carefully. The software then provided maps of the wind speed, power density and ruggedness index.

The input vector maps of the two sites is shown in Figure 6 (a) and maps of the ruggedness index, the wind speed and power density are shown in Figure 5 (b), (c), and(d) respectively. Table 7 shows a summary of the resource grid analysis for the two sites.

(a)

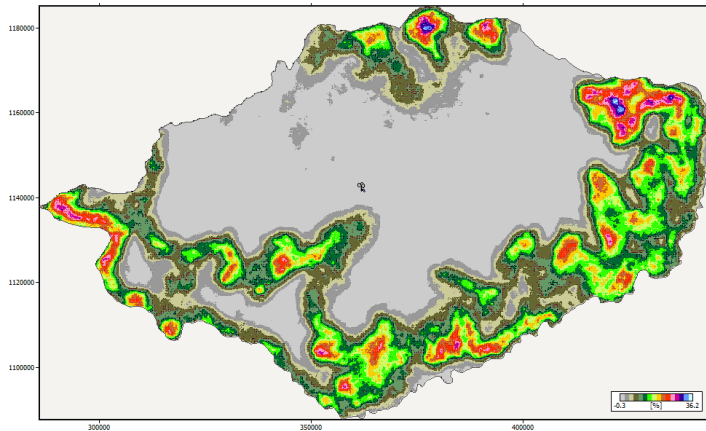


Debre Markos area



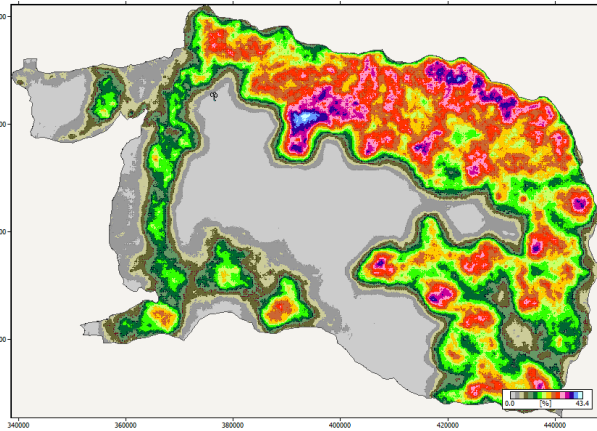
Motta area

(b)

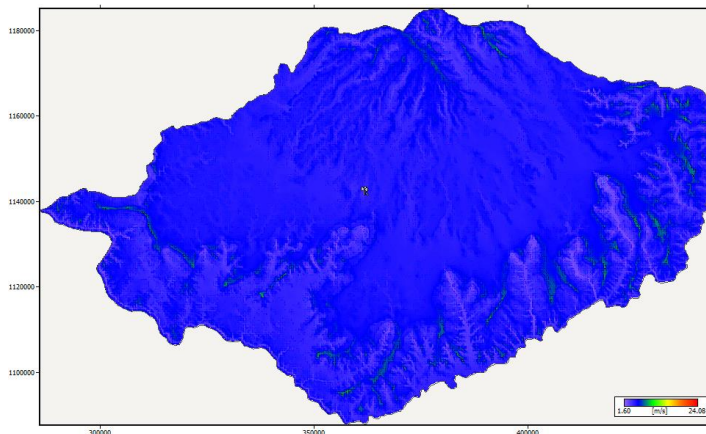


Debre Markos area

(c)

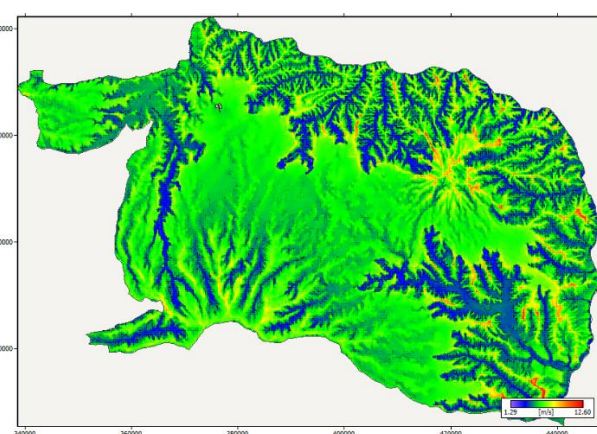


Motta area

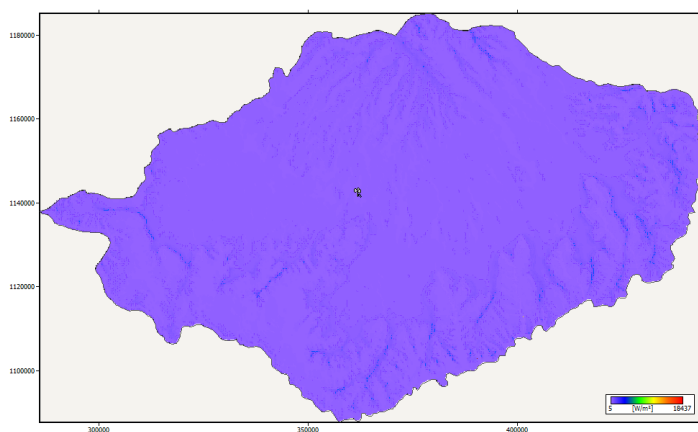


Debre Markos area

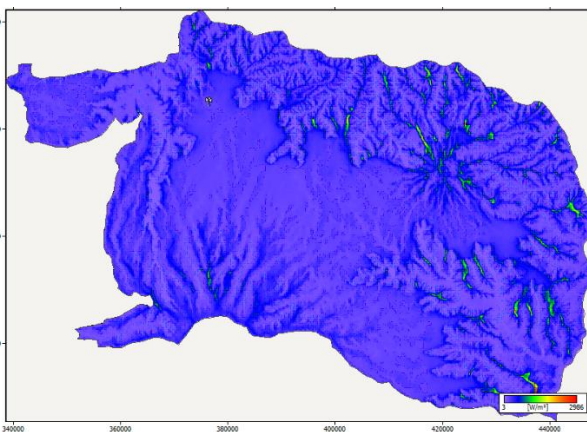
(d)



Motta area



Debre Markos area



Motta area

Figure 6. East Gojjam zone resource grid analyses, (a) vector map b) ruggedness index (c) wind speed (d) power density.

Table 7. East Gojjam zone wind resource grid overall grid statistics at 50 meters a.g.l

Site/Area	Mean speed [m/s]	Power Density [W/m ²]	Weibull-A[m/s]	Weibull-K	RIX [%]	ΔRIX [%]
Debre Markos	5.05	151	5.7	2.18	6.50	6.20
Motta	5.66	256	6.4	1.88	13.50	13.0

iv. East Gojjam zone Wind Speed and Power Density Maps at 50 m

Wind speed resource grid files of each site were exported and combined to get the wind speed map and power density maps of East Gojjam Zone. Surfer and Arc GIS software were used for combination of the separate site maps to get the final wind speed and power density maps shown in Figures 7 and 8 respectively. The color map was done in such a way that the change in color designates change in wind class i.e. Blue (Class 1), Cyan (Class 2), green (class 3), yellow (class 4), orange (class 5), red (class 6) and magenta (class 7). As shown in the figures the zone is covered by mainly class 1 site which is not suitable for wind energy development. Some areas of the zone have class 2 and 3 sites which can be used for wind energy development using tall turbines.

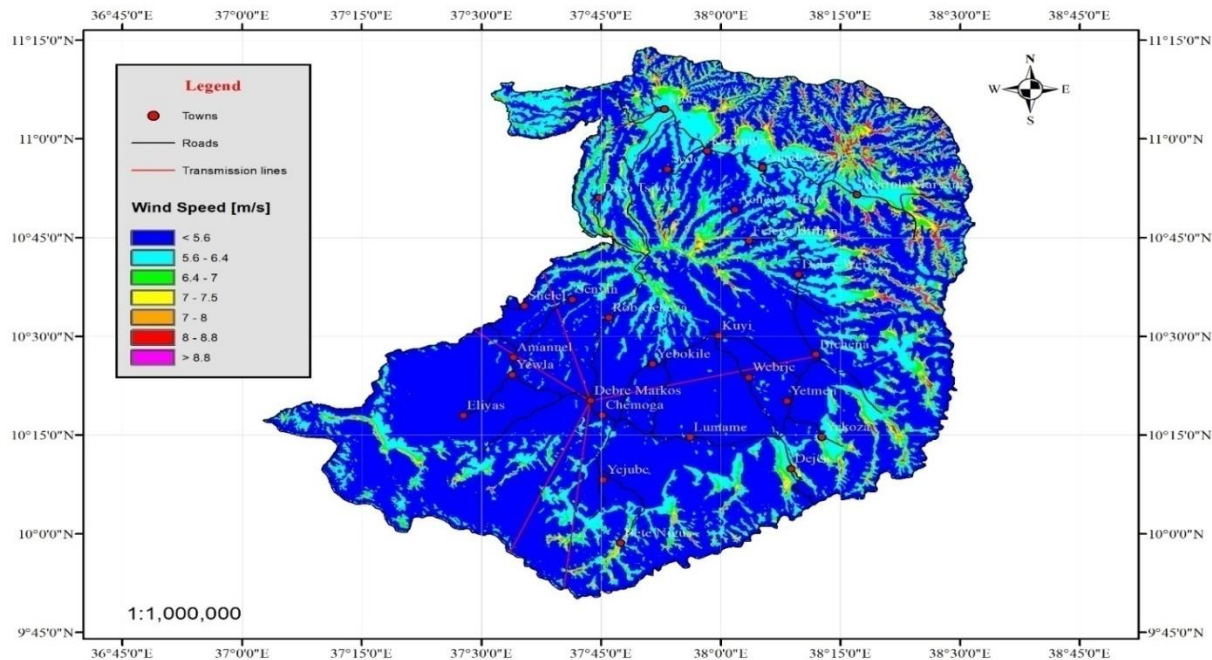


Figure 7. East Gojjam Zone wind speed map at 50 m.

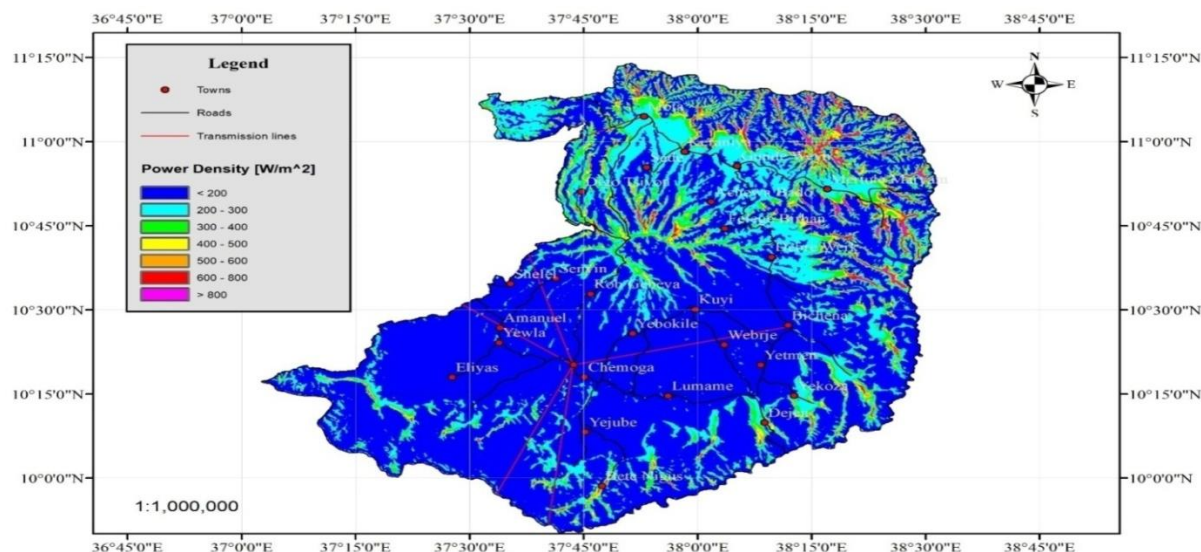


Figure 8. East Gojjam Zone power density map at 50 m.

IV. CONCLUSION

Wind data from two wind measuring masts in East Gojjam zone was collected and analyzed. Wind Atlas Analysis and Application Programme (WAsP) was used to generate the Wind Atlas of the area and to develop the wind speed and power density maps of the catchment at 50 m above the ground level. The measured data analysis conducted indicates that the average wind speeds at 10 meter is about 2.44 m/s in Debre Markos site and 2.41 m/s in Motta site. The mean power density at 10 meter was determined to be 17.82 W/m² and 16.20 W/m² in Debre Markos and Motta sites respectively. The wind resource map developed by WAsP at 50 meters indicated that the zone has mean wind speed and power density of 5.35 m/s and 203 W/m² respectively at 50 meter above the ground level. Most of the area of zone is covered by Class 1 sites with power density less than 200 W/m², but there are some potential sites in zone with class 2 and 3 sites with mean power density reaching up to 400 W/m².

REFERENCES

- AWS Scientific, Inc. Wind Resource Assessment Handbook: Fundamentals for Conducting a Successful Monitoring Program [Book]. - Albany : [s.n.], 1997.
- Bruce H. Bailey Scott L. McDonald Wind Resource Assessment Handbook: Fundamentals for Conducting a Successful Monitoring Program [Book]. - CESTM, 251 Fuller Road Albany, NY 12203 : AWS Scientific, Inc., 1997.
- Burton Tony [et al.] Wind Energy Handbook [Book]. - Baffins Lane, Chichester : John Wiley & Sons, Ltd, 2001.
- Burton Tony [et al.] Wind Energy Handbook [Book]. - Baffins Lane, Chichester : John Wiley & Sons, Ltd, 2001
- Bruce H. Bailey Scott L. McDonald Wind Resource Assessment Handbook: Fundamentals for Conducting a Successful Monitoring Program [Book]. - CESTM, 251 Fuller Road Albany, NY 12203 : AWS Scientific, Inc., 1997.
- Burton Tony [et al.] Wind Energy Handbook [Book]. - Baffins Lane, Chichester : John Wiley & Sons, Ltd, 2001.
- EEP Facts in Brief 2010 E.C [Report]. -2010E.C. energypedia.info Ethiopia Energy Situation [Online] // energypedia.info. - 2018. - 04 02, 2018. - <https://energypedia.info/wiki/Ethiopia> Energy Situation.
- European Wind Energy Association (EWEA) Wind Energy-The Facts: A guide to the technology, economics and future of the wind power [Book]. - London: Earthscan, 2009.

- GTZ Feasibility Study for Wind Park Development in Ethiopia and Capacity Building [Report]. -2006. P. 290.
- GTZ Wind Energy programme TERNA-Ethiopia, Wind data evaluation after 12 months [Report]. 2006.
- GWEC Global Wind Report 2016 [Report]. - [s.l.] : Global Wind Energy Council GWEC 2016, 2017.
- HYDROCHINA BEIJING ENGINEERING CORPORATION Master Plan Report of Wind and Solar Energy in the Federal Democratic Republic of Ethiopia [Report].-February 2012.
- Manwell J.F., McGowan J.G. and Rogers A.L. Wind Energy Explained: Theory, Design and Application [Book]. - Chichester : John Wiley & Sons Ltd, 2002.
- Mathew Sathyajith Wind Energy Fundamentals, Resource Analysis and Economics [Book]. – Berlin: Springer, 2006.
- Mortensen Niels G. and Petersen Erik L. INFLUENCE OF TOPOGRAPHICAL INPUT DATA ON THE ACCURACY OF WIND FLOWMODELLING IN COMPLEX TERRAIN [Report]. - Roskilde, Denmark : Riso National Laboratory, 1997.
- Robert Y. R., Per D.A. and Poul E.M. Wind Energy in the 21st Century: Economics, Policy, Technology and Changing Electricity Industry [Book]. - London : © UNEP Collaborating Centre on Energy and Environment, 2002.
- Tong Wei Wind Power Generation and Wind Turbine Design [Book]. - [s.l.] : WIT Press, 2010.
- Tony Burton David Sharpe, Nick Jenkins, Ervin Bossanyi Wind Energy Handbook [Book]. – Baffins Lane, Chichester West Sussex, PO19 1UD, England : John Wiley & Sons, Ltd, 2001.
- WAsp 11 WAsp 11 Help Documentation [Report]. - [s.l.] : Risø National Laboratory for Sustainable Energy.

ESTIMATING SOIL LOSS USING GEOGRAPHICAL INFORMATION SYSTEM AND REMOTE SENSING FOR SOIL AND WATER CONSERVATION PLAN: THE CASE OF YISIR WATERSHED, NORTHWESTERN ETHIOPIA

Habtamu Tadele Belay (Mr.)^{1*} and Demelash Ademe (Mr.)²

^{1*} Debre Markos University, Burie Campus, Department of Natural Resources Management, P.O Box: 269, Ethiopia

² Debre Markos University, Burie Campus, Department of Natural Resources Management, P.O Box: 269, Ethiopia

habtietoo@gmail.com
demelashade@gmail.com

ABSTRACT

Soil erosion is more sensitive in the highlands of Ethiopia. *Estimating annual soil loss using GIS and RS is the simplest way for priority of erosion risk potential areas. The main purpose of this study was estimating soil loss rate using RUSLE model with GIS and remote sensing. Specific objectives were: to compute RUSLE factor raster layer; estimate average annual soil loss rate; identify severity and prioritize areas for specific SWC plans and prepare soil loss risk map. LANDSAT image was taken in 2017 and Digital Elevation Model from <http://earthexplorer.usgs.gov>; meteorological stations were also the main source of rainfall data. Collected data were processed and analyzed using Arc GIS10.2 version. Total average annual soil loss from the 2,120.33 ha was estimated at 7161.06tons. The lower soil loss rate was 2.5t/ha/yr on plantation and natural forest, the maximum value was 100.62 tons /ha/yr in steep slope cultivated land and the average soil loss in the watershed was 50.31 tons/ha/yr. About 6.35% of the area is under extremely very severe soil erosion rate. Level soil bund, graded soil, stone or stone faced soil bund, fanyajju, cutoff- drain in the above part of the catchment, waterway along the slope, trenches on grazing land, check dam SWC measures at Quala got on gully erosion, integrated physical with biological measures like tree Lucerne, Vetiver grass are the recommended SWC measures. This approach can be applied in other basin or watershed for assessment of erosion risk potential using GIS and RS, and this can be used as a preliminary watershed planning tool for decision makers in Ethiopia like woreda Agriculture and Natural Resources Office.*

Keywords: Ethiopia, Geographical Information System, Revised Universal Soil Loss Equation, Yisir Watershed.

1.INTRODUCTION

Soil erosion by water has been the most serious environmental problem in Ethiopia since the 1970s (Hurniet *al.*, 2010 cited in Habtamu Tadele, 2016). Researchers estimated that 30 years ago the average annual soil loss rate was 1500 million tons per year, but currently it is 940 million tons per year (Hurni *et al.*, 2015). Loss of these sediments also entails a huge loss of nutrients (N and P) (Hurniet *al.*, 2015). The economic implication of soil erosion is more serious in the Northwestern highlands of Ethiopia because of its uneven topographical features and lack of capacity to cope with it to replace lost nutrients (Hurni, 1993; Tadesse Amsalu and Abebe Mengaw, 2014) probably due to high population pressure which leads to intensified use of already stressed resources and cultivation of marginal and fragile lands. In Amhara region, the annual rate of soil loss estimated due to water erosion was about 119 million t/yr, which amounts to 70% of the total soil loss in the country as a whole (IFSP, 2004). Due to this reason 29% of the total area of the region experiences high erosion rates (51 t/ha/yr) ; 31% experiences moderate erosion rates (16 t/ha/yr); 10% experiences very high erosion rates (>200 t/ha/yr); and the remaining 30% experiences low erosion rates (<16 t/ha/yr) (Dessalew Meseret, 2016) as cited in HabtamuTadele,2016). This situation will become worse if increasingly marginal land is cultivated. In addition to continuous impacts of humans on cultivated land, grazing land is becoming scarce, and what remains is thereby exposed to extreme grazing pressure (IFSP, 2004). This has resulted in low and declining agricultural productivity and continuing food insecurity and rural poverty (Assemu Tesfa and Shigdaf Mekuriaw, 2014). Poverty then drives populations to expand cultivated land to steep slope areas, which could, in turn, accelerates soil erosion (Asnake Mekuriaw and Hurni, 2015). Estimating soil loss rate Using geospatial data have a great role in the decision making and to recommend soil and water conservation measures for hot spot area. Conventional methods can be used to estimate soil loss; however, it is expensive and time consuming. Currently, the RUSLE integrated with GIS and remote sensing is widely used to predict soil erosion rate and also its spatial extent because of its speedy and accuracy (Bayramin *et al.*, 2002). In the study area soil loss due to water erosion is not estimated even if there are gully and rill erosion problem. Therefore, this study aimed to estimate soil loss rate using RUSLE model combined with Geographic Information System (GIS) and remote sensing techniques.

1.1. STATEMENT OF THE PROBLEM

Soil erosion has accelerated on most of the world, especially in developing countries including Ethiopia, due to different socio-economic, demographic factors and limited resources contributed most to soil erosion by water. These works mainly focus on soil loss assessment and on causes of soil erosion (GizachewAyalew, 2014; Alebachew Mamo, 2006; TadesseAmsalu and Abebe Mengaw, 201); Temesgen *Gashaw*and Tigabu *Dinkayoh*, 2015 ac cited in Habtamu Tadele,2016).The early and widely accepted soil erosion models consist of relatively simple responses function that was calibrated to fit limited numbers of statistical observations (e.g. USLE). The current trend is towards replacing these by far more elaborated process based models (Sonneveld, *et.al*, 1999). Among these models, WEPP (water prediction program) of the USDA, EPIC (the erosion productivity impact calculator), CREAMS (chemical, runoff and erosion from agricultural management systems), and EUROSEM (European soil erosion model) can be listed as an example. However, Sonneveld *et al* (1999) argues that in case of Ethiopia and many other developing countries the application of these process based models is not practically applicable due to their large data requirement. In contradiction with it, the issue and the impact of soil erosion in Ethiopia is still extremely severe, an assessment on the basic soil erosion model that best fit with the available resource is imperative. The study is conducted in *Yisir* watershed Northwestern Ethiopia, where there is high natural resources potential and suitable weather condition for agricultural activities as it is the area of Ethiopian highlands.

However, soil erosion has become the main problems probably due to excessive runoff because of absence of the necessary soil and water conservation measures and the topographic conditions of the area. Since, the above factors are not well studied before in the study area; there was a need to estimate soil loss for prioritization of soil and water conservation plan. Without considering soil loss and its impact in watershed based in depth, it is difficult to prioritize and cause identification, implementation plan for land resources utilization and conservation plan. In order to quantify the rate of soil loss and its subsequent effects, researches have been done, especially in the framework of the 15 years Soil Conservation Research Program set up by University of Berne in Switzerland and the Ethiopian Ministry of agriculture (SCRIP, 2000).

The purpose of this study is to estimate soil loss using GIS and RS techniques and to provide information in the role of soil erosion vulnerability map and to identify significance of soil erosion in the watershed. Such study should provide a base line data for land use planner and natural resource managers to formulate and implement effective land resource management strategies. Besides of the above, it will be used as source of information for those researchers who intend to do similar or related research. Therefore, this study is conducted to fill the existing information gap through estimating soil loss using RUSLE integrated with GIS and RS, identification of soil erosion prone areas spatially for priority of erosion hot spot areas and documentation of the finding for further researchers as sources of information.

1.2.OBJECTIVES OF THE STUDY

1.2.1. GENERAL OBJECTIVE

The main objective of the study is to estimate soil loss rate in the study area using RUSLE with GIS and remote sensing for soil and water conservation plan.

1.2.2. SPECIFIC OBJECTIVES

Specific objectives of this study were:

- to compute RUSLE factor raster layer;
- to estimate average annual soil loss rate using GIS and RS techniques;
- to identify severity areas and prioritize areas for specific soil and water conservation plans and to prepare soil loss risk map.

2. MATERIALS AND METHODS

2.1. DESCRIPTION OF THE STUDY AREA

2.1.1. LOCATION

The study was conducted at *Yisir* watershed which is located in between Burie and Guagusa Shikudad District, Northwestern Ethiopia (**Figure 3.1**). Its area is 2120.33ha. It is located between latitude of 10°43'0" to 10°47'0" North and longitude of 37°3'0" to 37°6'0" East, and at about 148km Southwest of Bahir Dar city. The altitude ranges from 2087 to 2,637 meter above sea level.

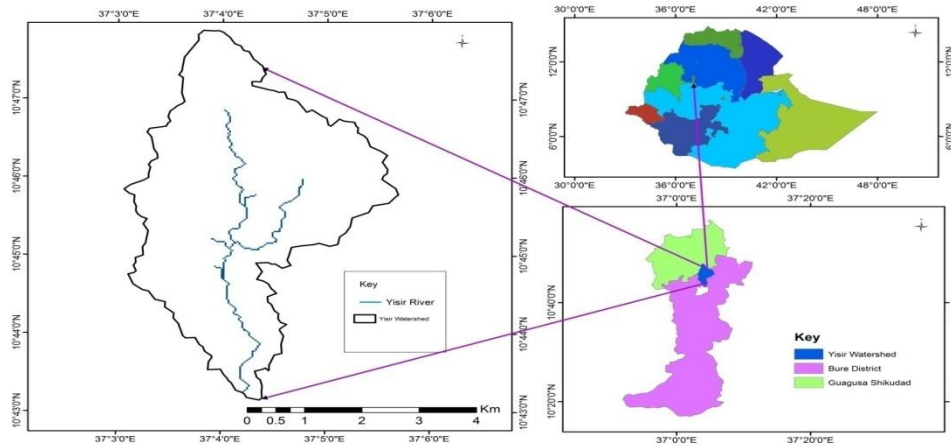


Figure 2.1. Location map of the study area

2.2 METHODS OF DATA COLLECTION

The study consumed both primary and secondary data sources. Secondary data like rainfall data were collected from meteorological stations and the assigned RKCP factors from literature review for Ethiopian conditions. Primary data were collected using field survey or ground truth points and field observations of the watershed including management practices, land use/cover and soil color at top soil depth (15cm).

2.2.1 DATA SOURCES

2.2.1.1 ASTER DIGITAL ELEVATION MODEL

ASTERDEM (a spatial resolution of 30m) was used to process terrain data required for modeling of (Fill, flow direction, flow length, flow accumulation, slope gradient, stream order and watershed). The final result was used for topographic factor (LS) raster computation.

2.2.1.2 RAINFALL DATA

To compute R-factor mean annual rainfall data of 16 years (1999-2009EC.) were collected from the nearby stations. The data were collected from four districts, namely; Bure and Jabi Tehnan, Guagusa Shikudad, Shndi Wemberma) stations from neighboring Districts. The amount of rainfall was interpolated using Inverse Distance weighted (IDW) algorithm available in ArcGIS10.2.

2.2.1.3 SOIL DATA

The soil color types of the watershed was surveyed from the top soil depth (15cm) using soil Munsell color chart and compared with estimated soil erodibility values for some soils in the Ethiopian condition given by Hurni (1985). From each land unit 32 soil samples (a total of 360) were collected using GPS with geographical coordinate system.

2.2.1.4. SATELLITE IMAGES

LANDSAT satellite image which was used to classify and to classify land cover types of the study area was downloaded from (<http://glovis.usgs.gov/>) website acquired on January 2017.

2.2.1.5 FIELD DATA

One hundred sixty ground control points were collected using Garmin GPS (72H) purposely for supervised land use/cover classification.

2.3. DATA ANALYSIS METHODS

2.3.1. SOIL LOSS ANALYSIS

The data was processed and analyzed using image analyst software (ArcGIS 10.2). The basic methodological approach followed in RUSLE model is illustrated in the following flow chart (**Figure 2. 2**).

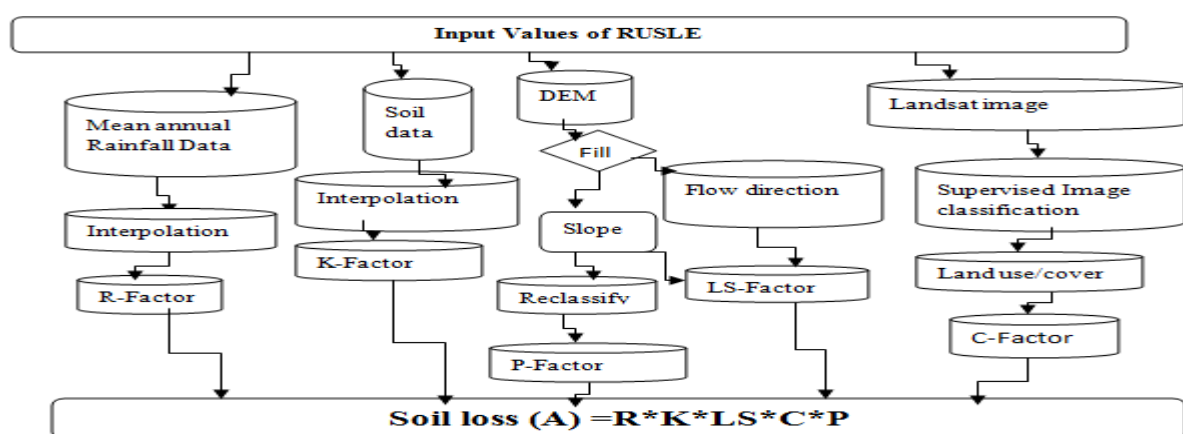


Figure 2. Procedure for analysis of soil loss rate using GIS and RS application methods

2.3.2. DERIVATION OF RUSLE PARAMETERS

The annual soil loss rate and soil loss per hectare estimation was conducted by a cell-by-cell analysis of the soil loss surface by overlay and multiplying the respective RUSLE factor values (R, K, LS, C and P) interactively by using Spatial Analyst Tool Map Algebra Raster Calculator in ArcGIS10.2 environment as shown Equation (1) adopted from the recommendations of (Hurni, 1985). For the purpose of identifying priority areas for conservation planning, soil loss potential of the study area first, it was categorized into different severity classes following FAO's basis of classification (FAO and UEP, 1984). The data were interpreted qualitatively and using descriptive statistics.

Where;

$$A = R * K * LS * C * P \dots \dots \dots \text{Equation (1)}$$

Where: A is the annual soil loss (metric tons ha⁻¹year⁻¹); R is the rainfall erosivity factor (MJ mmh⁻¹ha⁻¹year⁻¹); K is soil erodibility factor (metric tons ha⁻¹MJ⁻¹mm⁻¹); LS is slope length factor (dimensionless); C is land cover and management factor (dimensionless) and P is conservation practice factor (dimensionless).

ing IDW interpolation technique in ArcGIS environment. Then, the R-value corresponds to the mean annual rainfall of the watershed is to be estimated using the R-correlation established to Ethiopia condition (Hurni, 1985). After calculating average 16 years of rainfall for each station R factor was computed using the above formula and converted in to raster surface.

$$R = -8.12 + 0.562 * P \dots\dots\dots \text{Equation (2)}$$

Where, R is rainfall erosivity and P is mean annual rainfall (mm/yr)

2.3.2.2 SOIL ERODIBILITY FACTOR (K)

A soil map of the study area was prepared through collecting GPS points of soil color at a depth of 15cm with actual geographic coordinate system and then inverse distance weight (IDW) interpolation was done in ArcGIS environment. The value of K is given by based on soil colors in RUSLE for Ethiopian condition by adapting (Hurni, 1985). Reclassify the raster layer with assigned K-factor value in ArcGIS 10.2 spatial management tool. The soil erodibility (K) factor for the watershed was determined based on soil database adapted to Ethiopia by (Hurni, 1985; Hellden, 1987). Finally, the resulting shape-file was changed to raster with a cell size of 30mx30m. The raster map was then reclassified based on their erodibility value. This is one input for RUSLE model.

2.3.2.3 TOPOGRAPHIC FACTOR (LS FACTOR)

Slope steepness has been considered as one of the most model parameters in RUSLE analysis due to the fact that the steeper the slope of a field, the more it is pushed down hill, the faster the water runs and the greater will be the amount of soil loss from erosion by water. The slope length and slope steepness factors are commonly combined in a single index as LS and referred to as the topographic factor and which expresses the ratio of soil loss from field slope length and the field slope gradient (22.1m under standard plot length and 9% under identical conditions) as defined by (Wischmeier and Smith, 1978). ASTER DEM was used to generate slope by using Spatial Analyst Tool Surface Slope in ArcGIS 10.2 environment. The fill, flow accumulation and slope steepness will be computed from the ASTER DEM using ArcGIS. Flow accumulation and slope maps are multiplied by using Spatial Analyst Tool Map Algebra Raster Calculator in Arc GIS 10.2 environment to calculate LS and to map the slope length (LS factor) as (Wischmeier and Smith, 1978). Flow Accumulation was derived from the DEM after conducting Fill and Flow Direction processes in ArcGIS 10.2. Finally, the LS factor map was derived using the above formula in ArcGIS spatial analysis raster calculator function.

$$LS = (\text{Flow Accumulation} * \text{Cell size} / 22.13)^{0.4} * (\sin \text{slope} / 0.896)^{1.3} \dots\dots\dots \text{Equation (3)}$$

Where: Cell size is the field slope length, 22.13 is the length of the research field plot

2.3.2.4 LAND-COVER MANAGEMENT FACTOR (C)

The land-cover management factor represents the ratio of soil loss under a given cover to that of the base soil (Morgan, 1994). A land-use and land-cover map of the study area was prepared from Lands at satellite image acquired on 2017 and supervised image classification technique was employed using ArcGIS software. Ground control points were collected using GPS reference for supervised classification by maximum likelihood algorithm for validation of the result was done. Through supervised image classification technique, land use/cover types were classified. The classified image is used as inputs for generating crop management (C) factor. Based on the land use/cover classification map, a corresponding C value obtained from (Hurni, 1985) was assigned in a GIS environment for vector mapping of land use/cover.

2.3.2.5 CONSERVATION PRACTICE FACTOR (P)

In RUSLE, P factor is the ratio of soil loss with a specific conservation practice to the corresponding loss with up and down slope cultivation, which has a value of one to zero (Wischmeier and Smith, 1978). The P-factor was assessed using major land use/cover and slope interaction adopted for Ethiopia (Hurni, 1985). The slope of the

watershed was generated from DEM and classify based on FAO slope classes and reclassify the slope raster based on the respective P value with slope will be computed. The corresponding “P” values were assigned to each slope classes and the P factor map was done and conducted conversion from polygon to raster with output cell size of 30m was the result of P factor raster map for *Yisir* watershed.

3. RESULTS AND DISCUSSIONS

3.1. *RUSLE FACTORS GENERATION*

3.1.1. *RAINFALL EROSION FACTOR(R)*

Rainfall erosivity depends on amount, intensity and distributions of rainfall. The soil loss is closely related to rainfall partly through the detaching power of raindrop striking the soil surface and partly through the contribution of rain to runoff (Morgan, 1994). Based on the analysis the minimum and the maximum (R) factor value is 814 to 1046 MJ mmh⁻¹ ha⁻¹yr⁻¹, respectively (**Figure 3.1**). The northern part has high erosivity factor. This was due to the high mean annual rainfall of bordered District of Guagusa Shikudad. It should be noted that the higher erosive value the more potential of the rainfall impacts to detach and transport the soil particles due to raindrop impacts.

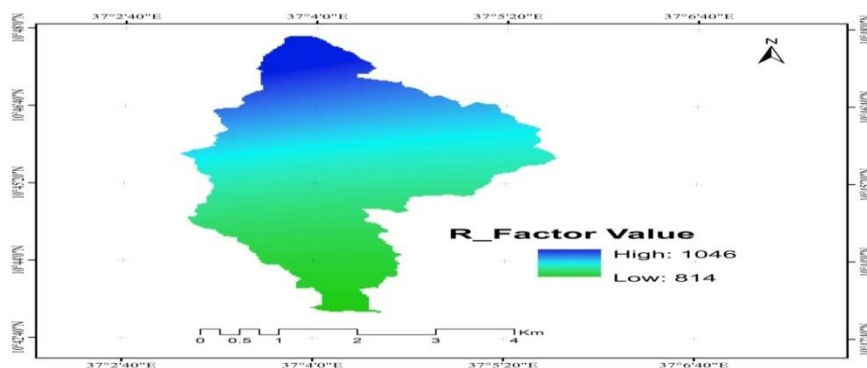


Figure 3.1 Rainfall erosivity factor (R)

3.2.2. *SOIL ERODIBILITY FACTOR*

As mentioned previously, Hurni (1985) clearly indicated the relationship between soil colour and the K-value. Soils high in clays (Vertisols) tend to have low K values in terms of texture (0.05 to 0.15) because it is more resistant to detachment (Yongsik, 2014). The result shows that the K-value ranges between 0.15 and 0.25. Based on field survey and soil sample GPS points analyzed using soil color chart, the study area also have Black (Vertisols) and Brown (Cambisols) soil type (Munsell soil color charts, 1992). The higher the K-factor value the more the soil vulnerable to erosion and subsequently the higher soil loss under the ideal condition than the lower K-factor values of soil (Yongsik, 2014).

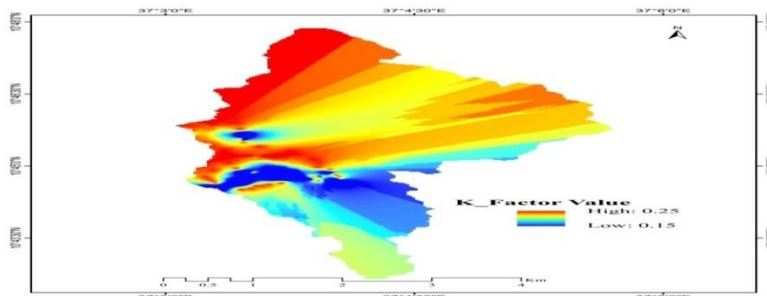


Figure 3.2 Soil erodibility (K) factor raster of the study area

As can be seen in Figure 4.2 and Table 4.1, most part of the study area was covered with Red (Nitisols) which is more vulnerable to erosion than other soil type. The result shows that 97%, 0.5% and 2% of the study area was covered with Nitisols, Vertisols and Cambisols, respectively. This means that most part of the study area is vulnerable to soil erosion. But the remaining part of the study area, covered by Vertisols and Cambisols which is less vulnerable to soil erosion due to high cohesion force between its particles and low erodibility index value than Nitisols.

Table 3.1 Soil type, soil color and erodibility factor in the study area

Sn.	Soil type	Soil color	K value	Area (ha)	Coverage (%)
1	Vertisols	Black	0.15	10.62	0.50
2	Cambisols	Brown	0.20	44.33	2.10
3	Nitisols	Red	0.25	2065.38	97.40
Total				2120.33ha	100

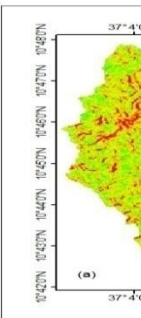
3.2.3. TOPOGRAPHIC FACTOR

3.2.3.1. DIGITAL ELEVATION MODEL

The modified (LS) factor map of the study area was generated from the slope and flow accumulation map derived from DEM. As slope length and gradient increases total soil eroded and soil loss per unit area may increase due to the progressive accumulation of runoff in the down slope direction. The result shows that the slope of the study area was ranged from 0% to 78% (**Figure 3.3**). This is in line with Jim (2015) as the slope length increases due to the greater accumulation of runoff by water erosion. The same author indicated that consolidation of small fields into larger ones often results in longer slope lengths with increased erosion potential due to increased velocity of water, which permits a greater degree of scouring (Jim, 2015). The reason why the slope was classified in to six classes was done to know the topographic nature and landform class of the study area with its coverage.

Table 3. 2 Slope class and area coverage of the study area

Sn.	Slope class (%)	Area(ha)	Percentage (%)
1	0-2	21.71	1.02
2	2-8	296.46	14.98
3	8-15	955.13	45.05
4	15-30	579.49	23.33
5	30-50	248.51	11.75
6	50-74.4	19.03	3.87
Total		2120.33ha	100



In RUSLE slope length and slope gradient factors are considered as a single index value and it was used as an input layer for soil loss estimation. Therefore, in this study it was generated once within a short time by using equation 5 as shown in **Figure 4.4**. The LS factor ranged from 0 to 5.12.

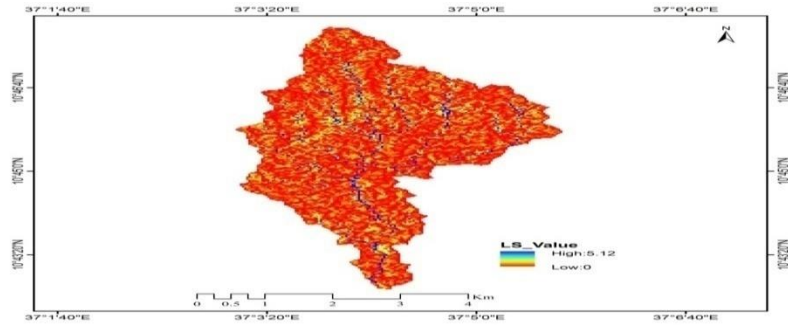


Figure 3.4 LS raster layer of the study area

3.2.4. LAND USE/COVER FACTOR

A total of 160 ground control points grazing (30 points), settlement (35 points), cultivated (35 points), plantation forest (30) and on forest land (30 points) were collected using handholding GPS. This data were used for supervised image classification.

Table 3.3. Land use/cover type and area coverage

Sn.	Land use/cover	Area (ha)	Percent (%)
1	Cultivated	1208.83	57.01
2	Settlement	125.42	5.91
3	Grazing	276.99	13.06
4	Plantation	162.71	7.67
5	Natural forest	346.38	16.38
Total		2120.33	100

Land cover helps to reduce rain drop impacts on soil particles. The dense vegetation covers less erosion process and subsequently low soil loss rate. Because of reducing runoff velocity, long horizontal movement and reduce potential energy (Morgan, 1994). As shown in Figure 4.5 five major land use/cover types were identified and the accuracy of the classified image is 89.78%.

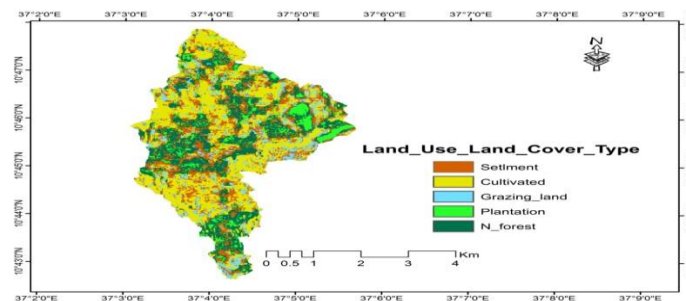


Figure 3.5 Land use/cover type of the study area

Based on the analysis (C) factor value of the study area is between 0.01 and 0.17. The higher C value indicates that the specified land use/cover is highly vulnerable to soil erosion and the lower value in forest land indicated that less vulnerable land cover type in the study area. The C factor values with respective land use/cover type were (0.01, 0.14, 0.17, 0.02 and 0.001) in grazing, settlement, cultivated (cereals or pulse), plantation and forest (**Figure 3.6**). Cultivated land is exposed to erosion than other land use/cover that is why it has high C factor value. The C-factor raster map value was high in the north direction because this area used for crop

cultivation with poor land covers conditions. The lowest value was in most grazing land and forest land in the most central part, northeast and southwest of the study area.

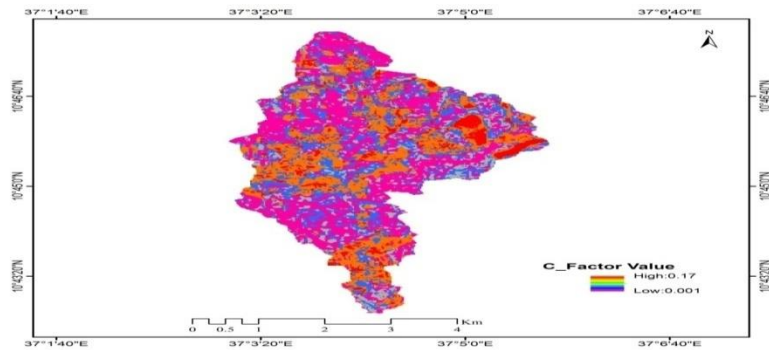


Figure 3.6 Land use/cover (C) factor map of the study area

3.2.5. MANAGEMENT PRACTICES FACTOR

The study area was classified into six classes: slope gradient class one from 0 to 5%, and class six from 51 to 62.5%. As shown in Table 4.4 most part of the study area was in slope class of 10 to 20% and 5 to 10% and the area coverage was 41.87% and 22.78%, respectively. The reason for classifying slope class in to six was to assign the respective P factor value in each class for P factor raster layer and to analyze the Percentage of each slope class. This is because the slope class percentage could be an indicator in which area the conservation measures should be implemented because of the slope nature of the targeted site.

Table 3.4 Slope class derived from DEM and management factor values

Sn.	Slope class	Area(ha)	Percentage (%)	(P) factor
1	0-5	383.99	18.11	0.11
2	5-10	165.47	7.80	0.12
3	10-20	456.33	21.52	0.14
4	20-30	929.59	43.84	0.22
5	30-50	179.22	8.45	0.31
6	51- 74	5.73	0.28	0.43
Total		2120.33	100	

For each slope class, respective P-value was assigned, which ranges between 0.11 and 0.14. Then, the vector format was converted into raster format using ArcGIS. The higher the P- value the higher ratio of soil loss from conservation practiced land with up and down slope cultivated land and the lower supporting factor (P) the lower soil loss ratio. Practicing conservation measure can change the slope of land and also reduce soil erosion through improving soil physical and chemical properties.

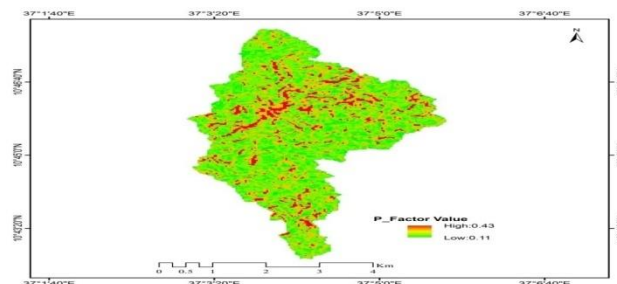


Figure 3.7 Slope class and conservation practices (P) factor map of the study area

3.3. SOIL LOSS POTENTIAL

The RUSLE model (**Equation 1**), created in the Arc-GIS, was used to generate a soil erosion risk map (**Figure 4.8**), and shows the spatial distribution of soil loss. Annual soil loss was estimated by overlaying soil loss factor raster layer after creating the RUSLE input data layers, i.e. R, K, LS, C and P factor map respectively using ArcGIS. Other researchers were also used the RUSLE for soil loss estimation, for example (Mellerowicz *et al.*, 1994; Kalenrieder, 2007; Bewket Woldeamlak and Teferi Ermias, 2009; Gizachew Ayalew, 2015a; Habtamu Sewnet and Amare Sewnet, 2016; Habtamu Tadele, 2016) in Ethiopia because of its simplicity and limited data requirement. The soil loss rate map shows various soil erosion rates with an estimated soil loss ranging from 2.5 t/ha/yr in the plain areas and those covered with plantation forests, such as the *Eucalyptus* plantations, to a little over 100.62 t/ha/yr in the areas of agricultural lands, waterways and drainages. The total annual soil loss in the study area (from an estimated area of 2,120.33 ha) was about 7161.06 tons. The average annual soil loss for the entire district was estimated at 50.31 t/ha/yr. As shown in Table 4.5 about 96.6% of the study area was categorized very slightly to slightly class which was under soil loss tolerance (SLT) values ranging from 5 to 11 t/ha/yr (Renard *et al.*, 1996). The remaining 3.4% of the study area was classified under moderate to very severe class, which is higher than the maximum tolerable soil loss (18 t/ha/yr) in Ethiopia as reported by Hurni (1985). The class of soil loss ranged from very slight, slight, moderate, severe and very severe (Singh and Phadke, 2006). The maximum annual soil loss of the study area was 100.62 t/ha/yr. Soil loss risk in the study area was categorized under very slight class (0-5 t/ha/yr), slight soil loss (5-11 t/ha/yr), moderate soil loss class (11-20 t/ha/yr), severe class of soil loss (20-30 t/ha/yr) and very severe class (30-100.62 t/ha/yr). It may be worth noting that nature takes 200 to 400 years to build up 1cm of top soil but thousands tons of soil are lost in a season from a watershed (Pimental, 1995). In the study area the annual top soil eroded was ranged from 0 to 0.4cm depth of soil (Table 4.5). As the researchers' knowledge soil loss due to soil erosion by water remove top soil and substantially it affects soil physico-chemical properties negatively and reduces soil fertility status.

Table 3.5. Soil loss summary of the study area

tons/ha/yr	mm/yr	Area (ha)	Area Coverage (%)	Severity classes	Priority class	Average Annual soil loss (tons)	Soil loss(%)
0-5	0-0.5	1963.34	92.59	Very slight	5	4908.35	68.54
5-11	0.5-1	92.26	4.35	Slight	4	738.08	10.31
11-20	1-2.5	40.44	1.91	Moderate	3	626.82	8.75
20-30	1-2.5	17.33	0.82	Severe	2	433.25	6.05
30-100.62	2.5-4	6.96	0.33	Very severe	1	454.5576	6.35
Total		2,120.33	100			7161.0576	100

Based on the analysis the average soil loss in the study area was 50.31t/ha/yr. This is more than the maximum tolerable soil loss (18t/ha/yr) in Ethiopia (Hurni, 1985). Other studies conducted in the Ethiopian highlands also shows that the average soil loss is higher than the maximum tolerable soil loss rate. For example, the average annual soil loss at Guang watershed in north Gonder Zone was 24.95t/ha/yr (Gizachew Ayalew and YihenewG Selassie, 2015); in Koga watershed, north western Ethiopia it was 47.4 t/ha/yr (HabtamuSewnet and AmareSewnet, 2016); in Jabi Tehinan, north western Ethiopia at District level mean annual soil loss was 30.6 t/ha/yr (Tadesse Amsalu and Abebe Mengaw, 2014); in north central highlands of Ethiopia was 30.88 t/ha/yr (Abate Shiferaw, 2011), annual soil loss in Tigray, northwestern Ethiopia was 39.8 t/ha/yr, (Estifanos Abera, 2014), the annual soil loss at Lalen watershed in Dangla and FagitaLokoma Districts, Northwestern Ethiopia

was 108 t/ha/yr (Gizachew Ayalew, 2015b) and the annual soil loss in Quashay watershed Northwestern Amhara was 36.92 t/ha/yr (Habtamu Tadele, 2016). Therefore, the result of this study is higher as compared with the results from previous studies conducted in Northern Ethiopia except Dangla and Fagita Lokoma district which is highland area. As the knowledge of the researchers' soil erosion and its result i.e. soil loss is more in the lowland than highland area.

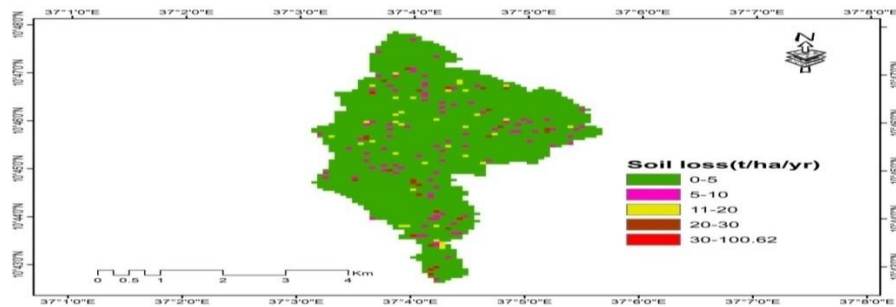


Figure 3.8. Soil erosion risk map showing RUSLE classes estimated for the study area

4. CONCLUSIONS AND RECOMMENDATIONS

4.1. CONCLUSION

Comparison to other studies elsewhere in Ethiopia, the soil erosion risk map and the erosion severity classes generated using RUSLE model integrated with the Arc-GIS10.2 revealed that, *Yisir* watershed landscape is under considerable soil erosion potential putting severe challenges to the agricultural productivity. The total average annual soil loss from the study area (an area of 2,120.33 ha) was estimated at 7161.06 tons. The lower soil loss rate was 2.5 t/ha/yr on plantation and natural forest, the maximum value was 100.62 tons/ha/yr in steep slope cultivated land and the average soil loss in the watershed was 50.31 tons/ha/yr. The entire study area was classified under five different erosion severity classes. About 96.94% of the study area is under SLT (11 t/ha/yr) level in having; while the remaining 3.06% is classified under moderate to very severe classes, contributing about 21.15 % of the total soil loss in the area. About 6.35% is under extremely very severe soil erosion rate which needs imperative conservation measures. In *Yisir* watershed, the average annual soil loss was higher than the maximum tolerance value. The northern parts of the study area which is intensively cultivated and covered by Nitisols, grazing land with developed gully. In the study area there is visual rill and gully erosion problem.

4.2. RECOMMENDATIONS

Based on our findings, we recommend the following: There is a need to regulate this soil loss rate by all possible means so as to decrease the existing amount of soil loss risk. Give priority for erosion hot spot area which is found along *Chenetal* river which is very steep slope area of the watershed plan and implement graded soil and stone or stone faced soil bund, fanyajju, cutoff drain in the above part of the catchment, waterway along the slope, construct trenches on grazing land, check dam SWC measures at *Quala* got, integrate physical with biological measures like tree Lucerne, Vetiver grass are the recommended SWC activities to be implemented so as to minimize annual soil loss rate. That is why areas characterized by moderate to very severe soil loss class should be given special priority to reduce or control the rate of soil erosion by means of cost and labor effective conservation planning. An area having high slope length and gradient value, very severe soil loss class and very steep slope class need to give priorities for immediate land resources management plan. Therefore, this approach of soil loss estimating using RUSLE model can be applied in other basin or watershed for assessment of erosion risk potential using GIS and RS, and this can be used as a preliminary watershed planning tool for decision makers in Ethiopia like Woreda Agriculture and Natural Resources Office.

REFERENCES

- Abate Shiferaw. 2011. Estimating Soil Loss Rates for Soil Conservation Planning in Borena Woreda of South Wollo Highlands. Addis Ababa University, Ethiopia. *Journal of Sustainable Development in Africa* .Vol.13, No.3 (ISSN: 1520-5509).
- Assemu Tesfa and Shigdaf Mekuriaw. 2014. The Effect of Land Degradation on Farm Size Dynamics and Crop-Livestock Farming System in Ethiopia: A Review. *Journal of Soil Science*, Vo. 4, pp.1-5.
- Asnake Mekuriaw. and Hurni. H. 2015. Analyzing factors determining the adoption of environmental management measures on the highlands of Ethiopia. *Civil and Environmental Research*. Vol.7, No.12. ISSN 2224-5790 (Paper).
- Bayramin I., Dengiz O., Baskan O. and Parlak M. 2002. Soil erosion risk assessment with ICONA model: Beypazari Area, Turk. *Journal of Agriculture and Forestry*, 27, pp. 221-229.
- Bewket Woldamlak and Ermias Teferi. 2009. Assessment of soil erosion hazard and prioritization for treatment at the watershed level: case study in the Chemoga watershed, Blue Nile basin, Ethiopia. *Land degradation and development*. Published online in Wiley Inter Science (www.interscience.wiley.com) DOI: 10.1002/ldr.944.
- Dessalew Meseret. 2016. *Land Degradation in Amhara Region of Ethiopia: Review on Extent, Impacts and Rehabilitation Practices*. PhD Scholar, Department of Bioscience, Mangalore University, India. *Journal of Environment and Earth Science*. Vol.6, No.1.
- Estifanos Abera. 2014. *Assessment of Micro Watershed Vulnerability for Soil Erosion using GIS and Remote Sensing*; MSc. Thesis in GIS and remote sensing, Mekele University, Ethiopia.
- FAO .1990. Soil erosion its causes and cures. *Soils Bulletin* 50. Rome. 30 p. 1990
- Gizachew Ayalew. 2014a. A Geographic Information System based soil loss and sediment estimation in Gerdi watershed, Highlands of Ethiopia. *African Journal of Agricultural Science and Technology (AJAST)* Vol. 2, Issue 7, pp. 151-162.
- Gizachew Ayalew. 2014b. Geographic information system based soil loss and sediment estimation in Zingin watershed for conservation planning, highlands of Ethiopia. *International Journal of Science, Technology and Society*. doi: 10.11648/j.ijsts.20150301.14; 3(1), pp. 28-35
- Gizachew Ayalew and Yihenew G. Selassie. 2015. Soil Loss Estimation for Soil Conservation Planning using Geographic Information System in Guang Watershed, Blue Nile Basin, Ethiopia. *Journal of Environment and Earth Science*. Vol.5, No.1. ISSN 2224-3216.
- Gizachew Ayalew. 2015a. Geographic Information System Based Soil Loss and Sediment Estimation in Zingin Watershed for Conservation Planning, Highlands of Ethiopia. *Amhara Design and Supervision Works Enterprise (ADSWE)*, Bahir Dar, *World Applied Sciences Journal* 33 (1), pp. 69-79.
- Gizachew Ayalew. 2015b. A Geographic Information System based Soil Loss Estimation in Lalen Watershed for Soil Conservation Planning, Highlands of Ethiopia. *Journal of Dynamics in Agricultural Research* Vol. 2(3), pp.31-39, Article ID: JDAR15/019.
- Habamu Sewart and Amare Sewart. 2016. Soil loss estimation using GIS and remote sensing techniques: A Case of Koga Watershed, Northwestern Ethiopia, *international Soil and Water Conservation Research*, <http://dx.doi.org/10.1016/j.iswcr.01.002>.
- Habamu Tadele. 2016. Estimating soil loss using geographic information system and remote sensing and analyzing its impacts on ecosystem services: the case of *Quashay* watershed, northwestern Ethiopia
- Hurni H. 1985. Erosion Productivity Conservation Systems in Ethiopia. *Proceedings 4th International Conference on Soil Conservation*, Maracay, Venezuela, pp. 654-674.
- Hurni H. 1993. Land degradation, famine, and land resource scenarios in Ethiopia. In: Pimentel D. *World soil erosion and conservation*. Cambridge University. Press, pp. 89-97.

- Hurni H., Solomon Abate., AmareBantider., BerhanuDebele., LudiEvas., PortnerBbrgitte., BirruYitaferu. andGeteZelege. 2010. Land degradation and sustainable land management in the highlands of Ethiopia. In Hurni H, Wiseman U (Ed) with an international group of co-editors. Global change and sustainable development: A synthesis of regional experiences from research partnerships, GeographicaBernensia. 5, pp. 187-201.
- Hurni K., GeteZelege., MinaleKassie., BerhanTegegne., TibebeKassawmar., ErmiasTeferi., AderajewMoges., Deme Tadesse., Mohamed Ahmed., Yohannes Degu., ZelegeKebebew., Elias Hodel., Ahmed Amdihun., AsnakeMekuriaw., BerhanuDebele., Deichert G. and Hurni H. 2015. Economics of Land Degradation (ELD) Ethiopia Case Study. Soil Degradation and Sustainable Land Management in the Rainfed Agricultural Areas of Ethiopia: An Assessment of the Economic Implications. Report for the Economics of Land Degradation Initiative, pp. 94.
- IFSP (Integrated Food Security Programme). 2004. *Status report on the use of Vetiver Grass for soil and water conservation by GTZ IFSP South Gonder*, Ethiopia. Integrated Food Security Programme.Bureau of Agriculture, Amhara Region, Bahir Dar, Ethiopia.
- Jim Ritter. 20015.Soil Erosion Causes and Effects, Order No. 87-040. P. Eng. Engineer, Soil Management. OMAFRA (Ontario Ministry of Agriculture Food and Rural Affairs), Factsheets. France.
- Kalenrieder V. 2007. *Adaptation and Validation of the Universal Soil Loss Equation (USLE) for the Ethiopian Eritrean Highlands*, MSc. Thesis University of Bern, Center for development and environment Switzerland.
- Mellerowicz K. T., Ress H.W., Chow T. L. and Ghanem I. 1994. Soil conservation planning at the watershed level using the Universal Soil Loss Equation with GIS and microcomputer technologies: a case study. *Journal of Soil and Water Conservation*, 49, pp.194-200.
- Morgan R. P. C.1994. Soil Erosion and Conservation.Silsoe College, Cranfield University, Cranfield.
- Munsell Soil Color charts. 1992. U.S. Dept. *Agriculture handbook 18 Soil survey manual*. Revised edition. New York, pp. 12551-0230.
- Pimentel D. C. 1995. Environmental and economic cost of soil erosion and conservation benefits. 267(5201), pp. 1117-1123.
- Renard K. G., Foster G. R., Wessies G. A., McCool D. K. and Yoder D. C.1996. *Predicting Soil Erosion by Water: A Guide to Conservation planning with the Revised Universal Soil Loss Equation (RUSLE)*.USDA, Washington, DC.
- SCRIP. 1988. *Soil Conservation Research Programme, Fifth Progress Report*. University of Bern, Switzerland in Association with Ministry of Agriculture, Ethiopia.
- Singh R. and Phadke V. S. 2006. Assessing soil loss by water erosion in Jamni River Basin, Bundelkhand region, India, adopting universal soil loss equation using GIS.Current Science, 2006; 90(10), pp. 25 -27.
- Sonneveld B.G. 2002.*Land under pressure: The impact of water erosion on food production in Ethiopia*.PhD thesis. Aachen: Shaker Publishing.
- TemesgenGashaw & TigabuDinkayoh. 2015. "Land Use/ Land Cover Dynamics in HuletWogedameaKebele, Northern Ethiopia," Current Research in Agricultural Sciences, Conscientia Beam, vol. 2(1), pages 36 41. Handle: RePEc: pkp:criasc:2015:p:36 41. DOI: 10.18488/journal.68/2015.2.1/68.1.
- Wischmeier W. H and Smith D. P. 1978. *Predicting Rainfall Erosion Losses a Guide for Selection for Conservation Planning*. Agricultural Handbook. S. Department of Agriculture, 537, pp. 69.
- Yongsik Kim. 2014. Soil Erosion Assessment using GIS and Revised Universal Soil Loss Equation (RUSLE). CE 394K GIS in Water Resources, David R. Maidment, 05 Dec. 2014.



DMU JOURNAL OF INTERDISCIPLINARY STUDIES

CALL FOR JOURNAL ARTICLES

Debre Markos University has long been established the research and publication directorate with a keen intuition to conduct priority researches disseminate research outputs for the tax payers and the general scientific community. To extend such research outputs and technology promotion results to the general public, the the research and community service Vice President Office of the University has launched an internationally reputable peer reviewed research journal publication with the brand new name “Debre Markos University Journal of Interdisciplinary Studies” (DMUJIDS), numbered with a journal having an ISSN 2521 8115.

Hence, DMUJIDS editorial board calls for original and unpublished research articles in all fields of studies for the fourth edition of the journal. All the submitted articles will be assessed and reviewed by highly calibrated and dependable academicians and researchers that are named as an ditorial board members of the journal. Therefore, all interested researchers are kindly invited to send original articles to be published on this reputable international research journal via the following e-mail address: dmuJIDS@gmail.com.

For further information on instruction for authors and citation, please consult the following link:
URL: <http://www.dmu.edu.et/index.php/2005-10-18-16-31-28/2005-10-18-16-32-07/dmu-jids>
