THE ROLE OF GENDER IN THE PROVISION OF RURAL WATER SUPPLY AND SANITATION SERVICES

THE CASE OF ACHEFER AND YILMANA DENSA COMMUNITIES OF AMHARA REGION

BY

BERHANU MAMO TESHOME

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF
ADDIS ABABA UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTERS
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Abstract

The sustainability of rural water supply and sanitation services depends on many interrelated factors such as the policy environment, institutional management, financial and economic issues, spare- part supply and maintenance, monitoring systems, and environmental related issues. However, despite all of these factors, the true participation and ownership of users, especially the role of women are the most essential ones. The aim of this research was to investigate the relevance of gender for the sustainability of rural water supply and sanitation services and to identify the structural factors that exacerbate women's and men's unequal participation in the management of rural water supply and sanitation projects. To this end, the study was undertaken in four rural water supply and sanitation projects among rural communities of Achefer and Yilmana Densa communities of Amhara Region by applying qualitative and quantitative methods.

The findings of the study reveal that gender plays significant roles in sustaining rural water supply and sanitation services. The women and men of the research areas were equally involved in the various phases of the projects, from inception to implementation. The role of women in project implementation was remarkable; where as it was low in the management of the schemes. Water supply and sanitation management committees were generally dominated by men. The participation of women both in decision-making and their numerical representation in water committees were lower than that of men due to impeding structural factors. The study also discloses that the power relation between female and male water supply and sanitation committee members is unbalanced. Though women play important role in taking care of their water supply and sanitation services, their contributions are little appreciated by the member of their communities and their representation in water supply and sanitation management committees are perceived as the fulfillment of the requirement set by support agencies to do so.

Provision of water supply and sanitation services are not merely technical issues. They have social and gender aspects that are crucial for their sustainability. Yet, such aspects are given less attention in the research areas..

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List of ACCRONYMS

ACSI	Amhara Credit & Saving Institution
ANRS	Amhara National Regional States
ARWMDB	Amhara Region Water and Mine Resources Development Bureau
ARWAO	Amhara Region Women's Affairs Office
BoFED	Bureau of Finance and Economic Development
DRA	Demand Responsive Approach
FGDs	Focus group Discussions
FWRMP	Federal Water Resources Management Policy
GAD	Gender and Development
GOs	Governmental Organizations
MOWR	Ministry of Water Resources
NGOs	Non Governmental Organizations
O&M	Operation and Maintenance
ORDA	Organization for Rehabilitation and Development of Amhara
RWSEP	Rural Water Supply and Environment Program
RWSS	Rural Water Supply and Sanitation Services
VHCs	Village Health Communicators
VLOM	Village Level Operation and Maintenance
WAD	Women's Affairs Department
WAO	Women's Affairs Office
WATSANCO	Water Supply and Sanitation Committee
WAE	Water Aid Ethiopia
WID	Women in Development
WSDP	Water Sector Development Program
WSDS	Water Sector Development Strategy.

GLOSSARY OF ETHIOPIAN TERMS

Wereda: in English called district. In terms of administrative structure it is located below the region. W*ereda* in rural settings consists of towns and many rural *kebeles*.

Kebele: is a local administrative unit below *wereda*. It consists of many sub-*kebeles* and *gottes*. For the case of this study, all households located in the *kebele* are not users of improved water supply services.

Gotte: is a group of communities and households located under *kebele* or sub-*kebele*. Households that are located at *gotte* level are users of water supply services if they are participated in labor, money and material contributions.

Gan: is big sized clay made pot. It uses to store water in the home by rural households. On average a *gan* can store three pots of water.

Madiga/Insra: is clay made pot. It uses to fetch water by rural women and girls. One *madiga/Insra* contains on average 15-20 litters of water.

Kill: is a small sized plant made water container. It uses as a means of water fetching by boys and girls in rural communities. *Kill* contain on average 7 litters of water.

DEFINITION OF KEY TERMS/ CONCEPTS USED IN THE PAPER

Sustainable rural water supply system: In this paper means water supply systems which are not over-exploited but naturally replenished, facilities are maintained at local level by women and men trained artisans which ensures a reliable and adequate water supply up to its designed period.

Users of Water supply and sanitation scheme: Here refers to households who initially contributed cash, labor, and locally available materials and participated during the construction of the water supply system.

Gender: denotes a holistic approach of the socially constructed being (femininity and masculinity), playing socially accepted doing (roles and responsibilities) in a given setting and time frame, where by the being and doing affected and influenced by the structural factors.

Gender division of labor: relates to the different work, responsibilities and actions to ensure the participation and benefits in all aspects of water supply and sanitation.

Patriarchy: a hierarchical social system and way of thinking where 'fathers' or 'patriarchs' rule which has become a major form of domination and subordination. The term 'patriarchal' refers to power relation in which women's interests are subordinated to the interest of men.

Masculinity and femininity: part of categories that are cultural discourse rather than biologically inherent ones and forming culturally (socially) constructed individual identities.

Developed water source: water source that is purposefully created through investment and renders protected and safe water to community members.

Water Supply scheme/system: the type of technology that makes possible the delivery of the water service. This includes developed spring and hand pump systems. In this study, the term scheme and system interchangeably used referring to developed spring (taped) and hand pump.

Traditional water source: naturally available water sources such as a river and pond; and sources developed through indigenous means such as hand dug shallow wells and springs.

Water points: distribution centers of developed water sources from which communities fetch water.

Household: denotes a group of persons who live in the same housing unit or in connected premises and have common arrangements for cooking and eating food (CSA, 1997:4).

Strategic gender needs: in this paper the term refers to the necessity to improve women's social position in a community by increasing their awareness of their situation and their capacity to take decision and influence change. This includes their position in water supply and sanitation management committees.

Practical gender needs: in this paper the term means the necessity to improve women's condition through the provision of their immediate needs such as water supply and sanitation facilities near to their house.

Gender Equity: refers to the process of being fair to women and men. To ensure fairness, measures must often be available to compensate for historical and social disadvantages that prevent women and men from otherwise operating on a level playing field. Equity leads to Equality.

Gender Equality: means that women and men enjoy the same status. It means that women and men have equal conditions for realizing their full human rights and potential to contribute to national, political, economic, social and cultural development, and to benefit from the results.

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CHAPTER ONE

INTRODUCTION

1.1. Background

Ethiopia is called water tower of Africa. Yet, the great majority of its population suffers from inadequate and unclean water supply, and has the lowest water supply coverage among African countries. For example, water supply coverage in Egypt, Sudan and Eritrea stands at 91-100%, 51-75% and 26-50% respectively, while it is less than 25% in Ethiopia (Harvey and Reed, 2004: 3).

The Amhara National Regional State (ANRS) is the second largest states in terms of area, population, and water resources potential in the country. Yet, its people suffer from lack of potable water supply. The current water supply coverage for the region is low (20%) as compared to other regional states, such as Oromya and Tigray where coverage is 31.2% and 34% respectively (WSDP, 2002).

Sustainability of rural water supply and sanitation services (RWSS) is a complex issue that depends upon many interrelated factors. Policy context, institutional arrangements, financial and economic issues, spare-part supply, maintenance, and monitoring systems are among the factors that are crucial for ensuring the sustainability of rural water supply and sanitation (RWSS) projects. In addition, the sustainability of RWSS is also affected by natural and environmental factors such as recurrent drought coupled with erratic rainfall, and depilation of ground water sources. Social factors such as inappropriate use and conflicting interests among communities also come into play (Harvey and Reed, 2004).

However, among all of this sustainability related factors, the true participation and ownership by the user community especially that of women is the most essential factors. A number of studies have noted that the primary factor behind sustainable community RWSS schemes is the role that is played by women (Wijk, 1998; Wendy, 1995; Harvey and Reed, 2004; Schouten and Moriarty, 2003). Women and men should work together in planning, designing, maintaining and managing their water supply and sanitation (WSS)

projects to ensure the functioning and use of the systems. This study, attempts to explain the role of gender in the provision and sustainable use of rural water supply and sanitation services and the structural factors that are perpetuating inequality between women and men in the management of RWSS services.

1.2. Statement of the Problem

Water supply and sanitation in Amhara Region is characterized by low coverage both in rural and urban communities. In the year 2005 only 18% of the rural population had access to safe drinking water. Like water supply, the sanitation coverage is also low. 84% of rural people did not have any kind of sanitation facilities during the same year (Amhara Region WMRDB, Inventory of Water Supply Schemes and Database Management, 2005: 5).

In order to improve the existing poor water supply coverage, the Amhara National Regional States (ANRS) has embarked on various measures. In recent times the Rural Water Supply Operation and Maintenance Strategy, the Sector Development Program, the Strategic Plan, and the Annual Plan of Actions have been formulated. With the support of donors new water supply projects constructed and the Regional and Federal Governments have also made available huge financial resources to subsidize maintenance costs. However, despite all of these efforts by the Federal and Regional governments as well as donor's community, the coverage of rural water supply has scored very little improvement and remains far below the required level.

The realities at the local level reveal that large number of rural water supply schemes have failed to achieve a satisfactory level of sustainability. The malfunctioning of the existing rural water supply schemes is one of the main factors behind the low coverage of water supply especially in rural areas (MOWR, WRMP: 19). For example, up to 2005 the number of rural water supply schemes installed in Amhara Region was 4145 hand- dug wells, 3635 springs, 324 shallow wells and 74 boreholes. However, 21.2% of these schemes were no more functional (ARWMRDB, Inventory Report, 2005: 33). In addition, most of the rural water supply technologies are not user friendly and cannot be maintained easily by local plumbers.

The current practices in rural water supply projects and programs also show that there is too much focus on the goal of increasing service coverage through the implementation of new water system whilst little attention is paid to gender and social issues in water supply that are critical in ensuring sustainability (Harvey and Reed, 2004: 8).

The existing experiences and practices in the water sector also suggests that a lot of emphasis is put on technical issues, on the other hand the social issues particularly gender aspects of water are ignored. Water supply has traditionally regarded as part of the discipline of engineering and consequently has seen from the engineering mindset of design and build. However, long-term sustainability requires a great regard for the numerous non-technological aspects of providing water and sanitation services.

At the policy level, the importance of gender aspects in rural water supply is often emphasized, yet its implementation has become elusive. Policy makers and technical staffs do not yet properly perceive its potential contribution to sustainable water supplies. There is also wrong perception among technical professionals that the involvement of women in rural water supply committees does not need to go beyond share membership. However, the dynamics of power relations between women and men committee members, women's involvement in real decision making and the structural factors that perpetuate the subordinate position of women in community affairs are given little attention.

In addition, the participation and involvement of women and men in most community WATSAN committees are not based on equality. The information obtained from related literature reveals that men dominate water supply and sanitation committees. They also own key decisions making positions such as chairpersonship and office of treasurer and, while women are almost always kept as ordinary members with no defined tasks. The current guidelines in NGOs and the regional WMRDB have shown that rural water supply should have female members in their community water and sanitation committees. However, the presence of women often a requirement of the implementing agencies rather than a community initiative and as a result their involvement becomes "tokenistic" (Harvey and Reed, 2004: 88). Little effort is made in changing the attitude of

beneficiaries and simply laws are imposed on communities by following the usual way of top-down approach. As shown by the section on the state of the research, a comprehensive study on the integration of gender issues in the design of drinking water supply has, to date, not been undertaken in Ethiopia. The relationship between gender and the provision of water supply and sanitation services; as well as the perception and benefits of women and men regarding the existing service provisions; their level of participation and the impediment in water management committees; and their contribution to the operation and maintenance of the works have not been adequately studied.

1.3. Objectives of the study

This study has the following general and specific objectives.

1.3.1. General objective

The main objective of the research is to explore how the sustainability of rural water supply and sanitation services is promoted by proper integration of gender issues; and to identify what structural factors exacerbate women's and men's unequal participation in the management of rural water supply and sanitation programs.

1.3.2. Specific objectives:

The specific objectives of this study consist of the following:

- To investigate the current approaches and enabling conditions that are facilitating the incorporation of gender issues in the research areas;
- To examine the underlying causes of women's inadequate representation in the water and sanitation management committees both in hand pump and developed spring schemes;
- To examine the views of women and men on the structural design of water point, their location, distance, appropriateness of the technology, tariff level, ability and willingness to pay, quality and quantity of water supply and sanitation services; and
- To investigate the role of gender in the provision and sustainable use of rural water supply and sanitation services.

1.4. Scope of the Study

The study concentrates on the significance of gender issues and its synergy with the sustainability of rural water supply and sanitation services. It also focuses on the investigation of structural factors that are behind the equal participation and involvement of women with men in RWSS projects. Due to time and resource constraints the study did not cover other aspects of gender such as the situation of women, access to and control over resources and activity profile of women and men in the research areas. Structural factors are also discussed only in relation to WSS project activities.

1.5. Relevance and Significance of the Study

The significance of this research lies in its attempt to meet the information needs of water sector practitioners pertaining to the importance of gender perspectives in promoting the sustainability of rural water supply services. The study is also relevant in providing information on the structural factors that are impediments on the equal participation of women and men in the project areas. Thus, the outcome of this research is expected to be used as an input in the works of policy makers, regional authorities and project staff. Moreover, the study can provide empirical evidence for developing effective gender mainstreaming strategies in the water sector.

1.6. Organization of the Report

The thesis consists of six parts. This introductory Chapter has sections that deal with background, statement of the problem, and objectives of the research, relevance and significance of the study. Chapter Two provides the research methodology, methods of data collection and data analysis. Chapter Three dwells on theoretical and empirical literature reviews. Then, Chapter Four gives background information on the study *wereda* and selected *kebele*. Chapter Five is devoted to a comprehensive description and analysis of major findings of the study. Finally, Chapter Six presents conclusions and recommendations of the study, followed by a list of reference and annexes.

CHAPTER TWO

METHODOLOGY

This research has mainly relied on qualitative methods (focus group discussion, observation, and in-depth interview) in order to bring out women's daily experience in rural water supply and sanitation activities, to understand the role of women and men in sustaining rural water supply projects, to explore women's and men's perception regarding the structural design of water supply and sanitation activities, and to examine the structural factors that perpetuate inequalities in management of these projects. In addition, quantitative research method, namely, a small-scale survey was employed in order to generate data on the demographic characteristics, water consumption level, quantity and quality of water, water coverage and distance to water points, and household sanitary conditions. In order to attain the objectives of this study, secondary and primary data were collected and analyzed.

2.1. Secondary Data

In order to have background information about Achefer and Yilmana Densa *weredas* (related to the location, altitude, population, economy, etc) relevant reports, studies conducted by NGOs, GOs and other archrival materials were reviewed. In the course of this study key documents and literatures were identified and reviewed. An assessment of existing strategy, guidelines, principles, WATSAN committee by-laws and verbal were reviewed.

Relevant documents that were reviewed and made use of in order to understand the role of women and men in RWSS services include reports by Rural Water Supply and Environment Support Program entitled Socio-economic Survey (1995), Organization for Rehabilitation and Development of Amhara Region (ORDA) entitled Rural Household Socio-economic (2004), Survey conducted by Water Aid Ethiopia (2004) and Amhara Region Water and Mines Resources Development Bureau (WMRDB) study on Rural Water Supply Inventory and Database Management (2005). Gender analysis carried out by NEK International consultancy (2000) and Amhara Region Women's Affairs Office (WAO) (1997) studies were also reviewed.

The study by Amhara Region WAO (1997) has provided some idea about the structural factors exacerbating inequality between women and men. Since there is limited literature on gender and rural water supply projects, the available related studies about the role of women and men were assessed in the literature review. Most importantly, the works of Bourne (1994), Schouten and Moriarty (2003) and Wijik (1998) provided the researcher a comprehensive picture about the issue of gender with the sustainability of RWSS projects. Wijik's (1998) analysis concerning 'Gender Issues in Water Resources Management' that describes the role of women and men in the sector is central to the analysis of the research findings.

2.2 Primary Data

The methods that were employed for the collection of primary data were survey research, field research, and focus group discussions.

2.2.1. Site Selection and Data Collection Procedures

Achefer and Yilmana Densa *weredas* are selected by the researcher due to the following outlined reasons:

- The study is intended to examine how the sustainability of RWSS project can be promoted by incorporating gender issues and to assess the impact of structural factors that obscure the equal participation of women and men in the management of RWSS services. Therefore, the researcher found it relevant to work in the project areas of NGOs (WAE and RWSSEP) to address the research objectives of the thesis;
- Currently, the researcher is working in Ministry of Water Resources. RWSSEP and WAE are among the partners' organizations that are working in close collaboration with MOWR. During his work experience, the researcher has become familiar with key individuals from these organizations as well as community members that made entry easy and accessible; and
- The researcher's familiarity with the culture and language of the *wereda* also made entry easy.

The WAE operates in six Peasant Associations (PAs) of Achefer *wereda* namely, Dilamo, Kurbaha, Lihudi Delekes, Kongere, Ambishen, and Qualabaka. In these six PAs, there are 16 hand dug wells and 8 springs constructed by Organization for Rehabilitation and Development in Amhara (ORDA) and WAE. On the other hand, there are 340 rural water supply services (15 springs and 325 hand pumps) constructed by RWSSEP.

In order to identify the exact research sites from these *weredas*, the researcher used a multistage sampling design. The sites were purposefully selected in three stages from the three levels (*wereda, kebele*, and *gotte*) by taking into account three criteria, namely presence and life span of rural water supply services; types of water supply schemes (hand pump and spring); and accessibility of the area (not too far and not too close to town and main road). On the basis of these criteria, Komma *gotte* from Debre Mewi *kebele* and Dibdab *gotte* from Kudad *kebele* of Yilmana Densa *wereda* were selected. In addition, Ghist *gotte* from Ambishen *kebele* and Gudri *gotte* from Yismal Jankit *kebele* of Achefer *wereda* were selected. In both cases using multistage sampling procedure and the above-described criteria four *gottes* identified.

With regard to data collection procedure, the researcher used community leaders, local government officials, and NGO representatives to introduce him to the settings. Then, the researcher in collaboration with one experienced female research assistant accomplished the data collection process. The assistant was given orientation on how to proceed with the study. Additional enumerators were employed and training was given in order to fill out the questionnaire of the household survey. All research participants were informed about the nature and implication of the study, being asked for their willingness to participate in the research. Interview and FGDs guides were translated and prepared into the local language to make communication effective between the researcher and the participants. Observations on the water supply schemes and informal chat with beneficiaries were done before the actual interviews to build good relation. An appointment for date and time of interview was made by the choices of the participants themselves. This was done after conducting the observation. Women and men focus group participants were interviewed in separate places.

The researcher has chosen locations that were comfortable and easily accessible for the participants.

2.2.2 Survey Research

Two small-scale surveys were undertaken in Achefer and Yilmana Densa *weredas* respectively, in order to collect quantitative information on such matters as households socio-economic characteristics, amount of water uses from the improved water sources, quality and quantity of the water provision, distance and location of water points, appropriateness of technology, the participation levels of women and men in the various phases of the project from the inception to the implementation and M&E of WSS projects.

(A) Sampling of the Respondent /Beneficiary households

After the selection of the *gotte*, the user/ populations of the various water supply schemes were identified and their lists secured from the documents of water and sanitation committees. Then the samples of respondents were drawn from the beneficiary household following a stratified sampling procedure employed the variable of marital status of the household heads as the stratifying factor, and systematic sampling as the final method of selection in the following manner.

First, the lists of married households from each *gotte* and users of particular water supply system were gathered from the documents of water supply and sanitation committee. After obtaining the lists of married households from each *gotte*, the list was disaggregated by sex of households leading to one list for married females and another for married males in each *gotte* respectively. The sampling intervals were obtained by dividing the total number of married households by the sample size of each *gotte*. Then, having established the starting number at random, 15 married women and 10 married men respondents were selected from the lists for inclusion into the sample beginning with the starting number and following the sampling interval. The following Table presents the sampled survey respondents.

Table 1: Distribution of Respondents by *Wereda, Kebele* and *Gotte*

Wereda	Kebele	Gotte	Number of Sampled Respondents		Total
			Married Women	Married Men	
Achefer	Yismala Jankit	Gudri	15	10	25
	Ambeshen Johana	Ghist	15	10	25
Yimana Densa	Debre Mewi	Komma	15	10	25
	Kudad	Dibdab	15	10	25
Total			60	40	100

As indicated in the above table, the total sample size was 100 from the two *weredas*, i.e., 50 respondents from each and 25 respondents (15 and 10 married women and men respectively) from each *gotte*. In order to bring women's voices and to address the objectives of this research, the quantitative aspect of the study was made to focus on female respondents. In line with this, 60% of the sample was assigned to married women.

(B) The Survey Instrument

A structured questionnaire for the purpose of collecting data from sampled households was developed and tested prior to the survey. Most of the questions were close-ended and therefore pre-coded (see Annex One).

2.2.3 Field Research Method

The researcher employed observation and in-depth interview for field research in order to enrich and maintain the quality of data and assure the accuracy of the research finding in the following manner.

(A) Observation

This method was used to gather qualitative data on for instance, structural design of the water points (in order to understand their user friendliness); reliability of water use; level of quality of services; adequacy and level of operation time; operator of water points, household sanitary conditions; responsibility of water fetching; women and men social relationships, interaction levels of women and men; fencing and drainage of water points; and other information. Through unobtrusive observation data were collected on budget allocated for gender related activities, report formatting, monitoring and evaluation

indicators at the project office level and water committees documents etc. Observation checklists were formulated to generate information on the above mentioned points.

(B) In-Depth Interview

Extensive conversation with eight key informants (four women and men) were undertaken in order to explore their insights, views, and perceptions towards the structural factors that are perpetuating inequalities between men and women in water supply and sanitation management committees (WATSAN COs), the participation levels of women and men in the course of the RWSS project cycles, and on the role of women in ensuring the sustainability of the water services. The criteria for the selection of in-depth interview participants were their knowledge of the area and length of stay in the areas. Key informants who are observant, reflective, and knowledgeable of the research areas were selected by checking their roles and status in the community.

2.2.4 Focus Group Discussion

Focus group discussions (FGDs) were undertaken in the selected communities. The participants in FGDs were men and women WATSAN committee members and men and women community members. Eight separate FGDs with women and men water committee members and additional eight FGDs with ordinary community members were undertaken in all *gottes*. The rationale for the FGDs was to gain valuable insights into people's attitudes, understandings and perceptions regarding the role of women and men in the provision and sustainability of water supply and sanitation services in their community, to gain a variety of views and perception that were stimulated through interaction; group discussions and reflections. An interview guide was developed to direct the gathering of information from the point of view of women and men in the community. Each focus group had six to eight members. The members were homogenous by gender and their social status. The discussion with community members focused in ten questions. The FGDs were accompanied by supplementary probing questions. Men's focus group discussions were facilitated by the researcher; where as women's FGDs were run by woman facilitator, while the researcher was taking notes. As a result, empowering the participants through critical dialogue and reciprocally educative processes was made

possible. In addition, by taking each FGD as an entity the information generated from each FGD were analyzed in contrasting and comparative manner.

In sum, the primary data collection through methodological triangulation that is employed is summarized by the following Table.

Table 1: Triangulated Data Sources

Unit of Analysis	**Data source**	**Method of Data Collection & Analysis**
Project Level	a. Relevant GO offices	a. Observation & Document review
	a. WAE project office	b. Observation &Document review
	a. RWSEP project office	c. Observation & Document review
	b. Officials and Project Staffs	d. Informants in depth interview
Community Level	a. Women and Men ordinary community members	a. Focus group discussion
	b. Key Informants	b. In-depth interview
	c. WATSAN Committee members	c. Observation and focus group discussion
	d. Water Sources and water supply Schemes	d. Observation
Household Level	a. Sampled households b. Key informants	a. Survey and observation b. In-depth interviews

Source: Based on "Methods of Social Research, Module 4, Triangulated Data Sources and Data Analysis", Yeraswork Admassie, Department of Sociology and Social Anthropology.

2.3 Data Analysis

The qualitative data collection and analysis focused on understanding women within their social context and using their own language based on feminist research guiding principles and standpoint. For effective data management the researcher used multiple analyses from the selection of the problem to final stages of writing. The approach used for data management and methods of analysis include the following techniques:

1. Data interpretations were made on the basis of feminist research guiding principles and by using Gender and Development as a conceptual framework of analysis.
2. Triangulating information was used in data analysis in order to reach at generalizations by overcoming the limitations of one method through the strength of another.
3. Information from various sources/methods was used to check and enrich one another.
4. Information gathered through the observations and in-depth interviews making up the qualitative research were analyzed mainly *in-situ* in the course of the field work. However, the qualitative material were further organized and processed, and interpreted in conjunction with information acquired through the other methods.
5. Data that were collected from the sampled household through the survey questionnaire, were processed (the responses for the open-ended questions being post-coded) and entered into the computer. They were thus analyzed with the help of Statistical Program for Social Sciences (SPSS) using lower level quantitative analysis, namely, univariate analysis, tables, and percentage analysis.

2.4 Limitations of the Study

- Due to financial and time constraints the researcher was not able to see the participation of women and men in government financed water supply projects.
- Although the researcher had planned to include motorized/borehole schemes in the research setting, he was not able to do that due to absence of such schemes in selected *gottes* of the two selected *weredas*.
- There was no adequate research materials conducted on gender and water in Ethiopian case. For instance, the existing research papers found in Ministry of Water Resources mentioned general statements on gender usually no more than a paragraph and are often recycled from one document to another and much emphasis placed to technical issues.

CHAPTER THREE

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

3.1. THE STATE OF THE THEORY

3.1.1. The Emergence of Gender in International Forum on Water Supply Management

The community involvement paradigm was officially adopted in the water sector by the international community during the 1977 World Water conference in Mar del Plata, Argentina. As Schouten and Moriarty noted the slogan of the conference was "water and sanitation for all" (2003: 3). In New Delhi in 1990, where results and follow-up of the international drinking water supply and sanitation decade (1981-1990) were discussed, water resources were one of the subject areas which emerged as essential for the next generation. The importance of preserving and protecting fresh water resources were given emphasis. The conference also underlined that water supply and sanitation should not be reserved for few, but all people have the right to fulfill the basic needs (Schouten and Moriarty, 2003).

Though provision of adequate and clean water for all was underlined by Mar del Plata Conference, the New Delhi document did not mentioned gender; rather women were mentioned several times in relations to their roles in managing domestic water collection and use. This has created a favorable condition for the recognition of their involvement as a critical element in reaching the water decades targets of 'water for all'. New programs called Women in Development (WID) were launched by the UN system and bilateral organizations that targeted only women and sought to broaden their involvement in the planning and implementation of water supply and services (Wijk, 1998). As results of this, women were trained as hand pump caretakers and artisans; their participation was mandated in water committees. Many projects started involving them in trench digging system, maintenance and water committees.

Following the New Delhi, the Dublin (1992) and Rio de Janeiro global water conferences mentions the central role of women in the provision, management and safeguard of water.

As depicted by Wijk these conferences “calls for the pivotal role of women as providers and users of water and guardians of the living environment to be reflected in institutional arrangement for the development of water resources” (1998: 13). Like the above mentioned conferences the Earth Summit in Rio de Janeiro (June 1992) in its Agenda 21 (strategy to provide universal coverage of sustainable water supply) explains the role of women in the same way “women should be involved in water management and training” (Wijk, 1998: 14).

As Wijik noted it is during the Noordwijk conference (March, 1994) which was followed the Dublin and Rio conferences on water and water resources management the issue of gender started to emerge. The Noordwijik conference endorsed equitable involvement of women in decision making, management bodies and training. The Noordwijk action plan stressed that water and sanitation programs need to be based on partnership and involvement of all stakeholders, (especially women, community associations, local, regional and central government, public and private sector agencies and non governmental organizations (1998: 14 -16).

From the experience of these conferences, a set of principles emerged that brought about dramatic changes to water supply and sanitation development. The economic value of water started to being recognized that calls for water has value and users need to pay. At the same time the water sector was learning that services should respond to demand in order to promote users willingness to pay. As stressed by Wijik, the Noodwijik conference gave insights into gender by stating “the requirement of gender disaggregated data that facilitate the involvement of women and men in the management of water resources” (1998: 17). The conference also recognized that the convergence of gender approach with demand responsive approach helps to promote the new idea of water as an economic good and users need to pay for it.

From the above paragraphs it can be seen that, in international forum on water resources, increasing attention is being paid to gender aspects. The attention is slowly shifting from singling out women in their predominantly domestic functions to bringing up the share of power in water planning and management between women and men.

3.1.2. The Transformation of Women's Role from Passive Water Carrier and Grateful Beneficiary to Active Manger

As argued by Wijik, during 1950s and 1960s women were regarded as water carriers and provided with water in order to address their practical needs. In domestic water supply programs women were initially seen simply as carriers of water. Their important roles in maintenance and management were not recognized. Therefore, women were not involved as actors but rather as passive beneficiaries. While women often benefited through access to water at a closer location, women were excluded from the involvement of water development project cycles (Wijik, 1998).

Women in development (WID) approach that come into use in the early 1960s had influenced the water sector development planners and policy makers to view women as the mere beneficiaries of the improvements. Rogers has explained the impact of WID approach on development planners in the following way:

> *The assumption of development planners make about women in society are based on thought of natural that a woman's place is in the home and she has a very specific set of tasks which are thought to be universal because they are based on the biological imperatives of sex. The most important role for women, defining their entire life, is portrayed as the bearing and bringing up of children. A man on the other hand, is seen as the natural head of the family, representative in the outside world and therefore the person with whom planners will deal (1980: 12).*

Under the rubric of WID, women were often treated as a homogeneous group, class, ethnicity and intra-household gender differences were not taken into account. Women's situations were analyzed exclusively, and activities were developed accordingly for them. Men were seldom involved in these activities in order to understand the needs of women.

As argued by Young (1993: 134) it was after the introduction of Gender and Development Approach (GAD) in 1980s, that women began to be recognized as actors and mangers of water in their own right, and it was demonstrated that involving women in planning, construction and management, brought benefits for general development, for the project, for the households and from women themselves. Bourne writes that: "Women

are recognized as local water mangers in a culturally prescribed manner" (1984: 45). This transformation from passive water carrier and grateful beneficiary to active manger and necessary participants was the product of GAD approach.

3.1.3. Gender and Community in Rural Water Supply Projects

In many villages in developing countries there are abandoned hand pumps, installed by well-intentioned government authorities that were constructed without any consultation and participation of user communities. When these system broke down no one in the village repair them, since people felt no sense of ownership. Such water supply schemes are also viewed as government property (Bourne, 1984: 15).

Such undesired results are the outcome of improper understanding of what community is and what characteristics it has. The definition of what is meant by community must be carefully examined. Community is not simply collection of people living in certain shared geographical boundaries. However, communities are active and has a lot of dynamics and also not passive. Communities are neither homogeneous nor static entities. The past experience in the water sector shows that water engineers have brought technical solutions to comminutes, however, a number of rural a water systems failed due to inadequate understanding of community dynamics. Harvey and Reed said: "communities are made up of people with different gender; families/clans; ethnic groups; religious groups; socio-economic groups; profession; and literacy and education levels" (2004: 65).

Similarly, Schouten and Moriarty also show us that the communities are "melting pots of continuous negotiations, discussions and conflicts" (2003: 35). According to them communities are dynamic and change constantly in their power balances, wealth, size, water availability and so on. Communities are also diversified that consists of rich and poor people with different status, women and men, old and young, powerful and powerless.

From these various descriptions of the characteristics of community, we can thus deduce that community though its members are close to each other; do not necessarily have the same levels of power and control, same interest with similar obligations. Women and

men have different levels of responsibility and different tasks, different attitudes to the value of water source close to home, have different degree of influence over decisions, and have competing interest in water use for home, cattle and crops. For instance, women and men need water to drink, however, domestic water is almost invariably seen as a women's affairs while water for irrigation if often largely the responsibility of men. Thus, as Young put it: “being men and women are differently located within the socio-economic structure, they tend to have different set of interests and needs” (1993: 186).

3.1.4 Barriers to women's participations in Rural Water Supply Projects

3.1.4.1. Women's Work Burden

As discussed in previous section, development planners, especially technical personnel in the water sector do not recognize and consider the triple roles of women and its implication in the participation of rural water supply project activities. The total workload of women in rural areas is very high, however, the works do by women are not considered as valuable works, while the work men do is used as a standard and given high value. The traditional held belief of man as breadwinner still predominates even though it does not hold in practical value.

The workload of women and its implications in any forms participation can be seen by analyzing their triple roles. Oakley depicts women generally perform “triple roles” (quoted in Biseswar, 2005: 9).

Reproductive: child bearing, rearing, reproduction tasks such as household chores, cooking, washing, cleaning, etc. for the maintenance and sustenance of the family on a day to day basis. It thus includes not only biological reproduction, which is a minor aspect of it, but also the care and maintenance (husband, children and elderly). Women's reproductive work is invisible, because it is seen as natural work.

Productive work: comprises income generating activities done by both women and men for production with cash or kind and includes both market production with an exchange value and subsistence home production with an actual use value and potential value. In

many societies, for generation on end, women have contributed immensely to the survival of their families by engaging in many types and forms of productive work.

Community managing work: Comprises activities undertaken by primarily by women at the community level as an extension of their reproductive roles. This is to ensure the provision and maintenance of scarce resources of collective consumption such as water, fuel, health care, and education. It is voluntary unpaid work undertaken in the free time of women. Men who are usually paid either in wages or increases in status often undertake the community politics roles. Women's community roles may vary from caring for sick community members in the form of doing household chores and assisting in service work for the community such as road construction. These all are considered to be performed by women for free since they are assumed to have plenty of energy. When men are engaged in any type of community work, for instance, in water committee, they are paid in the form of prestige. They tend to be moreover involved in positions of direct authority. As asserted by Young, women's reproductive works are considered as “natural or biological and do not involve in the market, thus not valued” (1993: 111).

Adequate understanding of women’s triple roles helps to collect accurate data on women's activities and not to underestimate their productive works. Collection of data on women's activities will also help the development planners to challenge the existing stereotype on women's work. Wijik has stated, “careful examination of women's work has a positive outcome to examine women's work load and to design appropriate schedule to ensure their participation in rural water supply projects” (1998: 17). It is also uses an entry point for project preparation and to know who is doing what in certain community and to plan for community participation activities.

3.1.4.2. Women's Social Status and Lower Level Decision Making Position

Social norms and values provide the framework within which status and positions are ascribed. Women in most places are generally disadvantageous comparing to men in terms of status and rights. It is also widely recognized that women and men particularly in developing countries do not have equitable division in rights, domestic and public

roles. In almost all cultures and economies the “pervasive ideology of male superiority” is prevalent (Young, 1993: 134) that hinder the participation of women in public arena. Such cultures and norms shape women's view of themselves and forced them to accept their inferiority.

Another social factor that hampers the involvement of women in any planned development activities is the control and upper hand of men over political, economic, social resources and distribution of power. For instance, in rural communities women are intimidated to speak in public meetings, especially in the presence of their husbands. The power relations between women and men within the family, community and society level is generally hierarchical and women are usually found at subordinate position than men.

As argued by Young (1993), our identities as man and woman are socially constructed, not fixed biologically. Oakley in Young noted:

> *“It is not easy to change and violate the masculinity and femininity characteristics of men and women, which are acquired through long term socialization started almost at birth and continue well into adulthood” (1993: 135).*

Women are intensively socialized to acquire feminine characteristics such as being attractive, passive, caring, submissive, dependent, shy, quite, innocence and gentle; where as men are socialized to acquire masculine characteristics like self-reliant, competitive, aggressive, strong body and successful.

Gender relations which are the product of masculine and feminine characteristics are socially constituted relations between women and men. Violation of these relations are sanctioned by norms and values held by members of a given community (Young, 1993: 138). She further elaborated the gender relations at the community or wider society levels are characterized by order of dominance, i.e. male tends to be the superior term in relation.

3.1.5. The Need to Consider Gender in Water Supply Services Demand Management

Many government and ESA (External Support Agency) strategies emphasize the importance of adopting a demand responsive approach to the delivery of water services. The Demand Responsive Approach (DRA) has emerged as an innovative strategy for assisting willingness of communities to improve their water supply services. It recognizes the existing capacity of communities to take responsibility for identifying and solving their water supply problems. Under a supply-based approach, services are provided according to the rules and procedures of the ESA or financing agency.

As explained by Wijik (1998), it is after Noordwijk conference water is recognized as an economic good any one who use it should pay for the services. Yet, water is also a fundamental need and has to remain affordable for every one. Cognizant of this, Ethiopian Water Resources Management Policy recognizes the establishment of 'social tariff' in order to enable poor communities to cover O&M costs. The policy also recognizes water is the basic human needs and disadvantaged rural communities who cannot afford to pay for development of water systems shall be borne by the government (WRMP, nd.: 21).

Current thinking in the water sector states that management systems must be user oriented. Among users, one of the largest visible groups can be identified by gender. As it is known needs and demands are not the same thing. Those with the most urgent needs may be into position to make demands. Women frequently find themselves in this situation.

Wijk (1998) asserted that men and women in different socio-economic classes and societies have different demands for different water uses and also have different levels of decision making. Within the households men may want to spend resources on other services than women. With exception of few cultures, men are in a better position to decide on household income. On the other hand, those who have no benefits will have a low demand and will not easily contribute (Wijik, 1998).

Within the household it is common that mostly the male heads of household are consulted in demand assessment and consultations. Without gender consideration, only men, especially those with wealth and influence often decide on the location of water points. When they are consulted, the demands and experiences of women play an important role in site selections, quality of source, contribution in cash and labor. Male knowledge and concern differ from those of female. For instance, men may prefer sites where they can

control the women. Men and women would differ in location and use of water for livestock versus domestic use and the construction of clothes and washing facilities (Wijik, 1998).

3.1.6. Impact of Inadequate Water Supply and Sanitation on Women Lives

Roark in Bourne writes: “the majority of people living in poverty survive with less than ten liters of water per day, per person, compared to modern western style consumption of 350 liters per day per person” (1984: 50).

Similarly the majority of rural poor in our country suffer from inadequate provision of water supply services. Rural peoples in many parts of the country do not have water on tap. It is also a daily routine task of most of women who are living in rural areas to rise early for fetching water mostly from unsafe sources. Water carrying, a task which falls mainly on the shoulder of rural women and their children is arduous, time consuming and can affect the health of women. For instance, the study conducted in rural Kenya has revealed that carrying water with heavy load coupled with long distances walking seriously affected the health of pregnant women and their fetus. Women who carry water on their backs had cranial problem (Curtis, nd. 19).

In addition, accidents which are a result of load carrying are frequent in poor communities; like, broken backs could occur due to slippery that affect the health of women. Women are also exposed to health risks especially when they haul water from traditional sources to contact diseases like malaria; hook worm and other parasites that are spreading in swamp or down stream environments.

3.1.7. The Link between Hardware and Software Component of RWS Services

In many rural areas the constructed water and sanitation system broke down soon after implementation as a result of poor maintenance and management. Although the coverage of RWSS services increased, the sustainability is often questionable. The underlying reasons for the in operation of rural water supply schemes as identified by international water communities are not only hardware issues, rather software aspects of water (Schouten and Moriarty, 2003).

As a result of missing link between the hardware and soft ware components of water supply projects, most of the structural designs of rural water supply schemes have become unfriendly for users and not simply operated and maintained at the local levels. Wijk (1998) pointed out consideration of soft ware and software issues in WSS has a great deal of contribution to adjust the service design to users demand, to address gender needs such as washing and batching locations, sites of public stands, and to promote community's sense of ownership.

3.2. THE STATE OF THE RESEARCH

3.2.1 Gender and the Sustainability of Rural Water Supplies Services

Harvey and Reed (2004) in their field research in Ghana, Kenya, South Africa, Uganda and Zambia have identified eight factors that are crucial in achieving the sustainability of rural water supplies. These are policy context; institutional arrangements; community and social aspects; technology and the natural environment; spare-part supply; maintenance system; and monitoring.

Zelalem Getachew (2005) in his masters thesis paper entitled "Determinants of Sustainable Rural Water Supply System in Ethiopia" has indicated that the sustainability of rural drinking water supply system is determined by community participation and involvement; women's participation and involvement; cost sharing and cost recovery; community awareness raising and education; water resources and base-line survey; repair

and maintenance service; water users management body and structure; technology; and institutional support.

It is an undeniable fact that all the sustainability factors that are described by these authors are crucial to ensure the functioning of RWSS services, however, I also contend that instead of treating 'women's participation' in isolation, gender issues should be taken into account in all sustainability factors as a cross cutting theme. There is a strong linkage between gender issues and every aspect of sustainability factors of RWSS services.

3.2.2 The Participation of Women and Men in Rural Water Supply Projects: The Current practices:

A number of studies conducted in rural villages have tried to identify the relationship of gender issues with RWSS. For example the research conducted in Ha Tinh and Nam Dinh provinces of Vietnam reveals that men and women had different perceptions and interest towards improved water supply provisions. Women were found to believe that they stand to benefit from improved water supply because it gives them opportunities for washing and showering at any time, where as the men in the villages could take a bath in the river after the days work in the field. Because of their need for privacy, women had to wait until dusk before they could wash and shower. The new water facilities helped women in the villages to improve their personal hygiene. In Ethiopia also women and men need clean water for daily life, but for women the needs is more urgent and differ than men.

Another finding of the study was that in Ha Tinh and Nam Dinh rural communities, men normally made the final decisions related to water supply and sanitation. Due to traditional customs men made major decisions related to the location of tap-stands, selection of caretakers, maintenance, and skilled workers. The study also indicates that, the participation of women in village level community meetings were very low due to women's workload in the home and women’s own wrong perception that men had better knowledge on the topics discussed the meetings.

One of the most conclusive findings of this study is in Nam Dinh and Ha Tinh the provincial and District IEC groups and the community steering committees consisted

mainly of men. The selection criteria used for community steering committee, i.e. having a leadership position within the community made it difficult to have a gender-balanced representation on the committees. Since women have a very limited access to community's leadership positions, they are unlikely represented in community committees. This situation has similarities among rural communities of Amhara Region. For instance the study made by Women's Affairs Department (WAD) of MOWR reveals similar information. Women's representation in water committee decision-making position was so low. The literacy level of women WATSAN committee members was generally lower than that of their male counter parts. In certain cases women, especially wives had a tendency to retreat from WATSAN committee membership due to cultural barriers. Women WATSAN committee member played only passive role being hindered by their husbands from participation in training held far from their residential areas. However, some puzzles of structural factors were not assessed and analyzed. For instance, the role of women and men in hygiene and education was not investigated. In addition trends and practices at the institutional levels were not covered, and the attitudes and perceptions of actors were not assessed.

3.2.3 Token Involvement of Women in Community Water Supply Projects:

Now a day there is a tendency among agencies engaged in installing water supplies in rural areas to claim that the drinking water projects can deliver sustainable benefits if it considers gender issues. The study conducted in Nepal however shows different results. This research report has identified that only men were involved during the various project activities of RWSS. Women were excluded because the agencies wrongly assumed that women did not have time for public participation and the project works would not be finished on time if women were waited. The study has also found that in Hile village of east Nepal, the two women at the local water committee had not known for months that they had been selected by the local men to serve on the committee. Because the male committee members had been instructed by the project officials to include two women in the committee, they had put the women's name forward as a token, in order to activate the implementation of the water project.

Improved water supply services do not necessarily brings positive impact on women's lives. Despite the claim of some of the projects to improve the lives of women by reducing their work burden, it was found by this research that women's workload had increased due to greater use of water by family members in a majority of households. The research findings show that after water was supplied nearer their homes, they fetched water 10-15 times due to the greater use of water by family members (200-300) liters of water a day. Such kinds of different experiences were tested and confirmed by this research work.

The other important finding of the study was the distorted perception of project staffs towards women's ability in operation & maintenance activities. Men were considered as more capable than women in doing labor-intensive work and more suited than women to technical tasks. Men where recruited as paid works and women mainly as volunteers. It is also expected that in rural areas of Amhara Region men are widely accepted by the community and project implementers as effective village level operation & maintenance workers than women.

Similar study conducted by NEK International Consultancy in 2000 in selected regions indicates the literacy level of women WATSAN committee members was generally lower than male and this affect their involvement in WATSAN committee. In certain cases married women had a tendency to retreat from WATSAN committee membership due to cultural barriers and work load. Women member of WATSAN committee were plaid passive role. Women WATSAN committee members were not allowed by their husbands to be participated in training held far from their residential areas. Attempt was made by NEK study to identify the above-mentioned constraints regarding women's participation in the management of rural water supply services; however, the reasons behind such obstacles were left unanalyzed.

3.3. A CONCEPTUAL FRAMEWORK

There are two widely known development approaches that aim to improve the living conditions of women. The first one is women in development (WID) that was initially used by the Women’s Committee of the Washington D.C and articulated by

American liberal feminists who advocated legal and administrative changes to ensure the integration of women into economic systems (Rathgeber, 1990). However, this approach never challenged gender hierarchies and has the following limitations. As asserted by Rathgeber (1990) and Young (1993), WID focused exclusively on the production aspects of women's work. It does not challenge the basic social relations of gender. WID approach often treats women as a homogenous group. Class, race, ethnicity and intra household gender differences are not taken into account. Development activities were planned only for women; where as men were seldom involved. This has created a misconception and resistance among men of why specific group was the only beneficiary of projects. Through this approach as noted by Parker "women's disadvantaged position was seen mainly as a consequence of the exclusion of women from development activities" (cited in Biseswar 2005: 14). This approach concentrates on the development of income generating activities for women with out taking into a count their time burdens.

Gender and Development (GAD) approach on the other hand emerged in the 1980, as an alternative to the earlier WID focus. As asserted by Rathgeber (1990) it finds its theoretical roots in socialist feminism and has bridged the gap left by the modernization theorists by linking the relations of production to the relations of production and taking into account all aspects of women's lives. She further noted that socialist feminists have identified the social constructions, production and reproduction as the basis of women's oppression and have focused attention on the social relations of gender, questioning the validity of roles that have been ascribed to both women and men in different societies.

Young has identified some of the key aspects of the GAD approach. GAD approach according to her, "starts from a holistic perspective, looking at the totality of social organization, economic and political life in order to understand the shaping of particular aspects of society" (1993: 1340). GAD is not concerned with women *per se* but with the social construction of gender, and the assignment of specific roles, responsibility and expectations to women and to men. In contrast to the emphasis on exclusively female solidarity that is highly prized by radical feminists, the GAD

approach welcomes the potential contributions of men who share a concern for issues of equity and social justice. The GAD approach does not focus singularly on productive or reproductive aspects of women's (and men's) lives to the exclusion of the other. This conceptual framework provides a set of analytical tools useful for describing and analyzing women's roles both in home, outside the household, and rejects the public/private dichotomy that commonly has been used as a mechanism of undervalue family and household maintenance of reproductive work) performed by women. This conceptual framework sees women as agents of change rather than as passive recipients of development assistance. It recognizes the importance of women and men solidarities, but it argues that the ideology of patriarchy operates to oppress women.

The GAD approach goes further than WID and provides a framework for investigating and analyzing the underlying assumptions of current social, economic and political (structural factors). It does not lead only to the design of intervention and affirmative action strategies to ensure that women are better integrated into on going development effort. It leads inevitability to a fundamental reexamination of social structures and institutional transformation. The GAD approach does not easily lend itself to integration of women into ongoing development strategies and programs. It demands a degree of commitment to structural change and power shifts.

Therefore, the conceptual framework of GAD is central to this work since the subject of researcher's study is the role of women and men for the provision and sustainability of rural water supply and sanitation projects. This conceptual framework well suited to guiding investigations of the research particularly in the spheres of the complementarities of women's and men's roles and responsibilities in water supply and sanitation projects. The structural factors that determine hierarchies of women's and men's positions in water supply and sanitation management committees; the difference between women and men's interests in water supply and sanitation design structures; and the enabling environments at the institutional levels that promote the integration of gender issues in activities and mandate areas are analyzed using this conceptual framework.

CHAPTER FOUR

BACKGROUND OF THE STUDY AREAS

4.1 Description of Achefer and Yimana Densa Wereda

Achefer *wereda* is located in the northwest part of west Gojjam Administrative Zone of Amhara National Regional State (ANRS). The *wereda* capital Durbete is found approximately 502 Km from Addis Ababa on the main high way to Bahir Dar. Achefer has an area of approximately 2566.15 Km^2. Its administrative structure consists of 43 rural and four-town *kebele*.

Yilmana Densa *wereda* on the other hand is located in the eastern part of west Gojjam Administrative zone at a distance of approximately 430 Km from Addis Ababa along the road to Motta Keranyo. The *wereda* has an area of approximately 145,027 hectares of land with 46 rural and three-town *kebele*.

With regard to the topographic features of the two *weredas*, Achefer is generally characterized by plain topography (72%) and its remaining part hill. Yilmana Densa on the other hand, has a relatively small area of plain topography (16%) and the majority of its area is characterized by undulating plateau (64%) and the rest hill (20%).

Regarding the climatic conditions, Achefer *wereda* is characterized predominantly by 'Woyna Dega' (med land) agro-ecology with some parts of its 'kolla' (low land) that accounts 13%. Yilmana Densa *wereda* has 'Wonyna Dega', Dega, and Kolla agro-ecology that account 57%, 24% and 19% respectively. Achefer is found between 1500-3000m above from the see level and that of Yilmana Densa *wereda* between 1552-3533m. Achefer receives a unimodal rainfall, which usually on set in May and ceases in September. Its annual rainfall ranges from 1400-2300mm. Yilmana Densa *wereda* has an average rainfall of 1338. 1mm.

The population of Achefer *wereda* is estimated 338,364; where as Yilmana Densa has relatively large number of population (377,818). The following table describes the population of the two *weredas* disaggregated by sex and place of residence.

Table 2: Population of Achefer and Yilmana Densa Wereda (2005)

Wereda	Unit of Residence	Population		Total
		Female	Male	
Achefer	Urban	14,404 (4.3%)	11,387 (3.3%)	25,791 (7.6%)
	Rural	151,251 (44.7%)	161,322 (47.6%)	312,573 (92.4%)
	Total	165,655 (49.3%)	172,709 (51.0%)	338,364 100%)
Yilmana Densa	Urban	10,599 (2.8%)	11,387 (3.0%)	21,986 (5.8%)
	Rural	179,052 (47.4%)	176,780 (46.8%)	355,832 (94.2%)
	Total	189,651 (50.2%)	188,167 (49.8%)	377, 818 (100%)
Grand Total		355,306 (49.6)	360,876 (50.4)	716,182 (100)

Source: Achefer and Yilmana Densa *Wereda* Administration Offices.

Agriculture is the mainstay of the economy of the two *weredas*. About 90% of the population livelihood depends on mixed farming. Social service provision in the two *weredas* is inadequate. For example, the rural water supply coverage of Achefer and Yilmana Densa *weredas* is very low. The following table depicts the coverage of rural water supply of the two *weredas* and the functional status of water supply schemes.

Table 3: Rural Water Supply Coverage of Achefer and Yilmana Densa Wereda

Wereda	Total Population	Functional Status of RWS Schemes							WS Coverage	
		Hand-dug wells			Developed Springs		Boreholes		Rural	Urban
		FN	NF	UC	FN	NF	FN	NF		
Achefer	338,364	27	10		7	3	2		5.52%	20.92%
Yilmana Densa	377,818	79	13	15	9	3	1	2	7.44%	18.3%

FN=Functional, NF= Non Functional, UC=Under Construction

Sources: Amhara Region WMRDB, Inventory of Water supply Systems and Database Management, 2005

Like many rural areas of the country, health service coverage of Achefer and Yilmana Densa *weredas* is also low (31.3% and 33% respectively). Regarding the sanitation coverage, the information obtained from the Amhara Region Rural Household Socio-economic Survey (2002) reveals 97.7% of Yilmana Densa and 99.8% of Achefer *wereda* rural communities have no any kind of sanitation facilities such as latrine and waste disposal systems.

4.2 Socio-economic Characteristics of the Study *Kebeles*

4.2.1 Debre Mewi

Debre Mewi, one of the three rural town *kebeles* of Yilmana Densa *wereda*, is located 42 km from Bahir Dar. The total population of the *kebele* is 1700 persons out of which 895 male and 805 female. Koli; Dibdab; Mosobo; Bahirdar Zuria and Ginb bound it in the north, south, east and west respectively. Internally, Debre Mewi is sub divided into three-sub *kebele*, namely Abetra, Gutta and Debre Mewi. The *kebele* is connected with Mosobo, Bahirdar Zuria, Koli, Dibdab and Ginb rural areas mainly with footpath. During the dry season vehicles can reach to these *kebele*. Debre Mewi has one elementary and one junior secondary school, one health post, and one private clinic serving also the surrounding rural population. There are postal and telephone services as well as 20 grinding mills that are serving the town and mainly the surrounding rural *kebele.*

As to the socio-cultural features of the *kebele*, there exist four churches and one mosque. Regarding the ethnic composition of the community, all of the residents belong to the Amahara ethnic group. The livelihood of the people of Debre Mewi is mainly comes from agriculture, both subsistence cropping and livestock production. Few households are engaged in off-farm work in addition to farm activities. It is one of the productive *kebele* of Yilmana Densa *wereda*. Maize, *teff*, wheat and barely are widely grown crops in the area. Debre Mewi's Thursday market serves as the central market area for both the people of the sub *kebele* and the surrounding *kebele* such as Adet, Dibdab, koli, Bahirdar zuria, and others. Debre Mewi has a traditional water sources from the river and unprotected springs. Before the introduction of the existing water supply systems, the main sources of water for community during the dry reason were hand dug wells and Tul River.

4.2.2 Kudad

Kudad is one of the rural *kebeles* of Yilmana Densa *wereda* where this research was carried out. Kudad *kebele* is located 6 km to west of Debre Mewi and 50km from Bahir Dar. The *kebele* has no access for vehicles during rainy season. It has a total population of 975 out of which 485 are female and the rest male. Kudad is bounded by Debre Mewi; Dambashe; Koker and Tsion; Bahir Dar Zuria in the north, south, east, and west

respectively. The *kebele* is divided into three-sub *kebele*, namely, Qusqame, Jankeber, and Gibremeda.

Kudad *kebele* has one elementary school and a health post. Hand dug wells; unprotected spring and river used to be the traditional sources of water both for domestic use and livestock uses. The Amhara are the major ethnicity group and the majority of community members are followers of Ethiopian Orthodox. Kudad has no its own market day, its residents go to Thursday market in Debre Mewi. Maize, *teff*, bean, and barely are the dominant crops grown in the area. The Kudad community has strong experience in development activities. The existing developed spring water supply and sanitation system locally known as 'Araya' and Gibremeda rural road were constructed by cash and labor contributions obtained from the community.

4.2.3. Yismala Jankit

This *kebele* is located 32 km from Durbete town along the all weather road to Kunzila. According the *kebele* administration, the population of Yismala *kebele* is approximately 7,000 out of which female account to 50.4%. The *kebele* is divided into 16 *gotte* and 38 *Mengistawi Buden* (government team which are smaller administrative unit below *gotte)*. A large part of Yismala is characterized by mid-highland with different resources suitable for agricultural activities. There are also places falling under highland agro-ecological zones. Maize, wheat, barely, *dagussa* are among the main crops grown in the highland. In addition, pulses particularly beans, chickpea, and lentils are produced.

Yismala Jankit *kebele* is bounded in the north by Ambeshen; in the northwest by Qualabaka; in the west by Yikli Terefit; in the east by Lalibela and part of Ambeshen; and in the south by major parts of Lalibela. As far as the functional features of the *kebele* is concerned, there exists, one elementary school, one health post, three grain mill houses, one secondary high school and four private clinics. Besides, the *kebele* is center of Amahra Credit and Saving Institution (ACSI) that is used as bank by local people. In relation to the socio-cultural feature, there is one Orthodox Church located at the center of *kebele*.

4.2.4 Ambeshen

Ambeshen kebele is one of the 43 rural *kebeles* of Achefer *wereda* with a population of 9,026 from which female constitute 4,282 and male 4,744. It is located six km away from Yismala town and bounded by Gug Ensugne, Yismala, kurbaha and Lalibela, and Liben in the east, west, south, and north respectively. Weyna Dega characterizes its climate. Its crop types and calendar are similar to Yismala Jankit. As to religion, the entire residents of the *kebele* are followers of Orthodox Christian. There are four churches in the *kebele*. The major livelihood of the population is agriculture. Ambeshen community has the experiences of contributing in development initiatives like construction of first cycle and second primary schools; and a health post. In addition, the community has also participated in construction of water supply projects through labor and cash contributions. Ambeshen *kebele* has no all weather roads for vehicles. Its people need to walk up to six km in order to get access to public transportation. Before the introduction of ORDA/WAE, the community used traditional water sources such as hand dug well and undeveloped spring and unsafe water from Gassina and Shutan rivers. The community has small market on Monday in their area, but their main market is located six km away at Yismala town.

CHAPTER FIVE

5. PRESENTATION AND ANALYSIS OF FINDINGS OF THE STUDY

5.1. Demographic Characteristics of Surveyed Households

In this part, the demographic characteristics of surveyed households are presented. The variables that are relevant for the study such as family size, educational status, and number of children under five years and elderly above the age of sixty are analyzed. The following table presents the demographic characteristics of the respondent households.

Table 4: Population Size and Education Profile of Respondents by *Gotte*

Demographic Characteristics	Gotte				Total
	Komma	Dibdab	Gudri	Ghist	
Sex of Household Members					
Female	83 (47.2%)	50(44.6%)	81 (47.6%)	56 (45.5%)	270 (46.4%)
Male	93 (52.8%)	62(55.4%)	89 (52.4%)	67 (54.5%)	311(53.5%)
Total	176 (100%)	112(100%)	170 (100%)	123 (100%)	581 (100%)
Age					
Female children 5-15 years	31 (17.6%)	15 (13.4)	38 (23.4%)	29 (23.6%)	113 (19.4%)
Male children 5-15 years	29 (16.4%)	15(13.4%)	34 (20.0)	32 (26.0%)	110 (19.0%)
Total	60 (34.0%)	30(26.8%)	72 (42.4)	61 (49.6%)	223 (38.4%)
Children under 5 years	20 (11.4%)	11(10.0%)	29 (17.1)	46 (37.4%)	106 (18.2%)
HH members above the age of 65 years	9 (5.1%)	4 (3.6%)	6 (3.5%)	5 (4.1%)	24 (4.1%)
Education					
Literate members of HH	75 (42.6%)	37(33.0%)	60 (35.3%)	44 (35.8%)	216 (37.2%)
Literate male members of household	47 (62.7%)	20 (54.1%)	37 (61.7%)	31 (70.5%)	135 (62.5%)
Literate female members of household	28 (37.3%)	17 (45.9%)	23 (38.3%)	13 (29.5%)	81 (37.5%)
Illiterate members of HH	101(57.4%)	75 (66.9%)	110(64.7%)	79 (64.2%)	365 (62.8%)

From the total population of surveyed households, 46.4% of them were female. Children under five years were 18.2% and elderly constituted 4.1% (Table 4). This has an implication on the reproductive roles and workloads of women in the households. Women in addition to their onerous tasks are required to take care of their children who are under five years of age. In the research settings girls who are found at the age of 5-15 are working and boys of the same age herd cattle and participate in agricultural activities. Women and girls need to spend a considerable amount of their time in taking care of children and elderly and in fulfilling the water consumption of household members. The above table also shows that the majority of the respondents (62.8%) were illiterate that might have an implication on the sanitary habits of the surveyed households. This is due

to the fact that inadequate use of latrine; unsafe water storage and use in the household; less personal hygiene practice; and poor environmental sanitation are commonly found among uneducated communities. Rural communities for various factors prefer to educate boys to boys. Girls in many parts of rural communities are expected to share the domestic tasks of their mothers. Educational status of surveyed households shows out of 216 literate members of the household, those women that were literate found to be only 81; where as men constituted 62.5%. The outcome of this survey shows the average household family size was 5.8 people per household that is fairly similar with the findings of CSA (1984) census result.

5.2. The Predicament of Women before the Implementation of Current Water Supply Projects

Before the construction of the existing water supply and sanitation services, Komma, Dibdab, Gudri and Ghist women were collecting water for drinking, washing and bathing from traditional sources like unprotected springs, ponds, hand-dug shallow wells and rivers. However, most of these traditional water sources were not reliable during dry season; whereas during the wet season water could be found closer to family compound. After the rainy season, surface water dries quite rapidly. It was during this time women particularly in Komma and Ghist *gottes* who have no spring source suffered a lot. For instance, women focus group participants in Komma *gotte* remembered their difficult situation and explained that they used to fetch water from a distant river that took almost two hours for one way and suffered not only walking long distance by carrying *madiga*, but there were many dangerous and frightening situations happened on the way.

Similar stories were heard in almost all communities. According to a 65 year old woman member of the Debre Mewi community, before the implementation of the current water project, the surrounding women were used to fetch water from Tul River, 5km away from their home. Another woman key informant, from Ambeshen *kebele* of Ghist *gotte* remembered women's predicament in fetching water and she explained it in the following manner:

> *It was a daily task of Ambeshen women to bring water from river by leaving their children, husbands, and without cleaning goat and sheep rooms (Gatte) since all these tasks wait women until they bring water early in the morning. For instance, the morning time was not enough to fulfill the water consumption of my family. I again traveled to the same source in the afternoon. The water I fetched from the unsafe sources was unclean and contaminated with warms. I remember that my younger daughter had seriously infected with water born diseases.*

Similarly, women focus group participants in Dibdab *gotte*, Kudad *kebele*, explained that women used to spend half day to collect water from the surrounding undeveloped spring sources. They also added that in each day it is not only people, who need water, so do the cows, goats, sheep and chickens. All these animals need to drink water at some point during a day. It was therefore women's responsibility to provide all these water needs by hauling it from any available sources. As mentioned by one of the women informants from Gudri *gotte*, pregnant women had a hard time to lift and carry their *madiga* that contain an average of 20 litters.

Men also appreciate the predicament of women due to inadequate water supply provision. Men focus group members from Gudri *gotte* mentioned that when women fetched water from undeveloped springs they were stung by leeches found in swampy and blocked water and their family health was seriously threatened due to water born diseases. They also added that from inadequate water supply, it was not only women suffered from walking long distances by carrying heavy loads on their backs, but also domestic animals. For instance, cows were traveled up to 5 km to get water from the river and by the time they reach home they again become thirsted and did not give enough milk. The rural dwellers in the project areas had suffered not only from lack of safe water, but also from inadequate sanitation facilities. In a discussion about possible contamination of spring water which was main sources for domestic use, women in Ghist *gotte* pointed out that drinking water was always collected early in the morning, before pollution activities, such as bathing and washing clothes took place.

5.3. Water Supply and Sanitation Projects in Komma, Dibdab, Gudri and Ghist *gotte:* The present Situation

Water supply schemes in Dibdab and Gudri *gotte* are spring sources distributed by gravity. Gudri spring was established in 2006; where as that of Dibdab in 2005 by ORDA/WAE and RWSEP respectively. The water supply systems from both spring sources have spring boxes, collection chamber, reservoirs, junction boxes and pipes; where as the water facilities include water points with four faucets, three washing basins, cattle trough and two separate rooms of public showers for women and men. The reservoirs ranging from 150 to 200 meter cube are rectangular in shape and have been constructed from reinforced concrete structures. Gudri's reservoir has a capacity to reserve 4500 litters of water. On the other hand, Komma and Ghist *gottes* are using hand-dug well water sources that are fitted with hand ump technology type (Indian Mark II hand pumps). There were 2,168 beneficiaries from these water supply schemes. The water schemes at Gudri and Komma also serve the town population and the surrounding school communities during dry season. Regarding livestock watering about 1,239 cattle were provided with water in Dibdab and Gudr*i gottes*. In Komma and Ghist *gottes* the hand pump schemes did not serve livestock.

5.4. The Role of Gender in the Provision of Rural Water Supply and Sanitation Services

5.4.1. The Contribution of Women and Men in the Course of the Various Water Supply and Sanitation Project Cycles

Current approach in drinking water supply and sanitation emphasizes that community participation at planning stages of the project is important. The reason led to this approach arises from previous years experience in the water sector that shows that for projects to be useful and sustainable; users must perceive its benefits. Women and men should work together, choose and plan, as they are able, what type and level of service they need (IRC 2000: 9).

Women and men informants during the focus group discussions were asked how their WSS services were implemented and also the levels of women and men participation in

the course of the various water supply and sanitation project cycles. The discussions have brought the following information. Interviewed women and men group participants in Dibdab and Komma *gottes* explained that the RWSSEP project coordinator of Yilmana Densa Wereda Water Desk established their WSS projects; whereas the project officer of ORDA/WAE mentioned by Gudri and Ghist *gottes*. Informants mentioned these individuals because they were their first contact persons during sensitization and organization of the target population. One of the female WATSANCO members from Komma *gotte* added that before the construction of their WSS project, the community has elected water committee members in order to organize cash, local materials and labor contributions from the beneficiaries.

Explaining how their project was initiated, one of the officials in Yismala *Kebele* administration office has explained that the need for improved water source was first discussed in the community. The leaders of the communities through discussions and consensus of the entire villagers have decided that coordinated efforts were necessary. Leaders of the *kebele* who were men approached ORDA/WAE office to request and discuss water problems. During this discussion men attended the meetings with the project offices and leaders of the village provided the information concerning water needs; where as women attended the meetings held at community level. Cash, labor, and local materials contributions were among the issues that were discussed during the meetings.

Women focus group informants in Dibdab and Gudri *gottes* were asked how was the participation of women during the project preparation and they explained that women were participated at the time of project planning by providing baseline information such as their day to day practice on water fetching, the time they spent for hauling water from unsafe sources, the amount of water used at households, and on the sanitation and hygiene practice of family members. On the other hand, men were involved in actual baseline data collection and organization of the community for meetings and discussions with the project staffs. They also added that women and men were participated during the assessment of villagers' enthusiasm for projects and willingness to pay for it.

For the question who was first contacted by the project staffs during the project initiation, Ghist and Komma *gottes* women group informants explained that community and religious leaders were first contacted. The information obtained from men focus group participants of the same villages also confirmed that project initiatives were first discussed with *kebele* leaders and the respected community members who were men, but women were informed later.

During the project implementation stage, the participation of women and men were remarkable. As explained by Komma *gotte* men focus group participants, men villagers have dug a ten meters deep well by their hands, while women excavated the soil. As explained by one of WATSAN committee members in Dibdab *gotte*, local materials especially rocks and gravels that were needed for the construction of the spring, reservoir and spring cape were not available. Women were traveled to long distance as far as the neighboring village and have brought the rocks by carrying on their shoulders. The challenge was not only carrying the rocks, but the neighboring communities were refused to give rocks freely and such competitive interest on scarce resources has led to cause conflict between the two villagers. As explained in section 4.2.2, Dibdab *gotte* is not accessible for vehicle during rainy season. At the time of their WSS project implementation women have facilitated the construction processes by transporting sand that was piled three km away form the construction sight of their water project. They also contributed labor during trench excavation that was 27 meters from the spring source to the water point.

Women's contributions during the implementation of WSS projects were not only limited to labor, but also they have provided food and locally made drink (*tella*) for brick layers and construction workers. Some women informants in Gudri *gotte* stated that hired men did most of the heaviest work such as digging and carrying cement, iron pipes and blocks; where as women were involved in mixing sand and cement with water in addition to provision of food and drink. Women also played roles during the inauguration of newly constructed WSS services through the cooking foods and brewing local drinks that are required for the festivals.

Focus group participants in each village were asked to rate the level of women and men participation in cash contribution. Two groups in Komma *gotte* reported that women and men household heads had equal cash contribution. The other two groups in Dibdab pointed out that the cash contribution of women household heads was less by half than men household heads. The remaining four groups in Gudri and Ghist reported in the same way as komma *gotte*. Regarding site and technology choice, the informants in all *gottes* similarly explained that the communities were not consulted at all. Moreover, women and men group informants explained their limited involvement during the design

Work of WSS projects. The information obtained from respondents regarding their participation in various project stages of WSS services also showed similar results and the findings are presented in Table 5.

Table 5: Frequency and Percentage Distribution of Women and Men Respondents by their Participation in the Different Activities of the Water Supply and Sanitation Project Cycles

Types of Participation	Responses	Gotte								Total	
		Komma		Dibdab		Gudri		Ghist			
		Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Knowledge of commencement of the water supply project	Yes	10(66.6%)	8(80%)	13(86.6%)	9(90%)	14(93.3%)	9(90%)	11(73.3%)	8(80%)	48(80%)	34(85%)
	No	5(33.3%)	2(20%)	2(13.3%)	1(10%)	1(6.7%)	1(10%)	4(26.6%)	2(20%)	12(20%)	6(15%)
	Total	15(100%)	10(100%)	15(100%)	10(100%)	!5(100%)	10(100%)	15(100%)	10(100%)	60(100%)	40(100%)
Consultation during preparation	Yes	9(60%)	9(90%)	10(66.6%)	8(80%)	9(60%)	8(80%)	8(53.3%)	9(90%)	36(60%)	34(85%)
	No	6(20%)	1(10%)	5(33.4%)	2(20%)	6(40%)	2(20%)	7(46.7%)	1(10%)	24(40%)	6(15%)
	Total	15(100%)	10(100%)	15(100%)	10(100%)	!5(100%)	10(100%)	15(100%)	10(100%)	60(100%)	40(100%)
Consultation during site selection	Yes	3(20%)	4(40%)	4(26.6%)	2(20%)	5(33.3%)	5(50%)	2(13.3%)	4(40%)	14(23.3%)	15(37.5%)
	No	12(80%)	6(60%)	11(73.3%)	8(80%)	10(66.7%)	5(50%)	13(86.7%)	6(60%)	46(76.6%)	25(62.5%)
	Total	15(100%)	10(100%)	15(100%)	10(100%)	!5(100%)	10(100%)	15(100%)	10(100%)	60(100%)	40(100%)
Consultation during selection of technology	Yes	3(20%)	4(40%)	4(26.6%)	2(20%)	5(33.3%)	5(50%)	2(13.3%)	4(40%)	14(23.3%)	15(37.5%)
	No	12(80%)	6(60%)	11(73.3%)	8(80%)	10(66.7%)	5(50%)	13(86.7%)	6(60%)	46(76.6%)	25(62.3%)
	Total	15(100%)	10(100%)	15(100%)	10(100%)	!5(100%)	10(100%)	15(100%)	10(100%)	60(100%)	40(100%)
If labor contribution made	Yes	11(73.3%)	8(80%)	14(93.3%)	8(80%)	12(80%)	9(90%)	10(66.6%)	10(100%)	47(78.3%)	35(87.5%)
	No	4(26.6%)	2(20%)	1(6.6%)	2(20%)	3(20%)	1(10%)	5(33.4%)	-	13(21.6%)	5(12.5%)
	Total	15(100%)	10(100%)	15(100%)	10(100%)	!5(100%)	10(100%)	15(100%)	10(100%)	60(100%)	40(100%)
If contribution in cash was made	Yes	15100%)	10(100%)	15(100%)	10(100%)	15(100%)	10(100%)	15(100%)	10(100%)	60(100%)	40(100%)
	No	-	-	-	-	-	-	-	-	-	-
	Total	15(100%)	10(100%)	15(100%)	10(100%)	!5(100%)	10(100%)	15(100%)	10(100%)	60(100%)	40(100%)
If local materials were contributed	Yes	11(73.3%)	8(80%)	13(86.6%)	10(100%)	12(80%)	9(90%)	9(60%)	7(70%)	45(75%)	34(85%)
	N0	4(26.6%)	2(20%)	2(13.4%)	-	3(20%)	1(10%)	6(40%)	3(30%)	15(25%)	6(15%)
	Total	15(100%)	10(100%)	15(100%)	10(100%)	!5(100%)	10(100%)	15(100%)	10(100%)	60(100%)	40(100%)

Of female respondents the majority (80%) reported that they knew how their water supply system started (Table 5). From 40 male respondents, only 15% of them did not know how the waster supply scheme was started. This implies that men had better access to information. For the questions raised as to why they were not informed by the project staffs during the preparation phase of the project, 18.3% of women respondents replied

that they were not around when the water supply project started and 21.7% of them assumed that the presence of their husbands was sufficient.

As the literature in section 3.1.7 discussed, site and technology selection were considered as a territory of technical issues. It is only 23.3% of female respondents who were asked for site and technology choices; whereas men were 37.5% out of 40 respondents. This implies that men had better involvement than women. The information obtained from focus group informants and household respondents also confirmed this fact. The negative consequences of such missing link between social aspect of water and technical issues are discussed in section 5.6.1.

5.4.2 The Roles of Women and Men in Water Supply and Sanitation Management Committee

Water supply and sanitation committees are local institutions that have indispensable roles in ensuring effective operation and maintenance of the rural WSS schemes. The election of WATSANCO members in all *gottes* was undertaken by their communities. However, as the literature on token involvement of women in community water supply indicates, women committee members in Dibdab *gotte* were elected in their absence.

From the observation made on the archival documents of WATSANCOs, it was learnt that WATSANCOs in all *gottes* have legal status and accountable for the *Kebele* administration and their respective community. They were also guided by their own by-law with clearly defined rules. Membership records were updated and management of finance was based on transparency and accountability. More over, minutes of meeting and important data such as beneficiary lists were kept well. As explained by women and men informants, WATSANCO members were volunteers in performing important roles such as representing their community to have contact with *kebele,* government officials, support agencies (RWSEP, ORDA/WAE), and private sectors. The committees also have a responsibility to mobilize and educate the community to promote clean water use, latrine construction and environmental hygiene. In addition, they hold and lead regular

meetings, ensure equitable water use and distribution among members during dry season and organize effective operation and maintenance of the systems.

The activities of WATSANCOs were appreciated by the communities. The focus group informants in all *gottes* reported that WATSANCO members were making great personal sacrifice to participate in committee work. When asked to evaluate the contribution of committee members, the information provided by respondents are presented in the following table.

Table 6: Respondents by their Evaluation of the Performance of Water Committees

Wereda	**Gotte**	**Evaluation of performance of water committee**						**Total**
		Good		**Fair**		**I do not Know**		
		Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency
Achefer	Gudri	21	32.8	3	18.8	1	5	25
	Ghist	11	17.2	8	50	6	30	25
Yilmana Densa	Komma	17	26.6	4	25	4	20	25
	Dibdab	15	23.4	1	16	9	20	25
Total		64	100	16	100	20	100	100

As it is shown in the above table, 64 respondents indicated that the activities of WATSANCO were good. Similarly, the discussions held with women and men committee members indicated WATSANCOs have a significant contribution in taking care of water supply systems. The following box illustrates the role of women WATSANCO members in taking care of the water supply and sanitation scheme.

Women visit their water supply schemes everyday: Abebech Kasa in Gudri *Gotte*

Abebech Kasa, WATSANCO member of Gudri *gotte* is a mother of four boys and five girls. Four years ago, she divorced her husband who married another woman in Yismala town. Abebech is now a single parent taking care of her nine children. She earns some money by selling *tella* and *arake*. Since the money comes from these sources is not enough to cover the living costs, she rented part of her land to another farmer, on arrangement that the owner get 1/3 of the yields and; the remaining plot of land cultivated with the help of her relatives.

Abebech's house is situated in front of the villager's water supply scheme. The system was previously guarded and operated by male operator, though he left his job due to a delay in payment of his monthly salary. She was then nominated by WATSANCO as a new guard and operator of the scheme, considering her proximity to the water point and taking into account her poor living conditions. Regarding her day-to-day activities at the water point she said:

"I had an agreement with WATSANCO to get a monthly salary of Birr 70 to work as guard and operate the scheme. For the first two months they paid me as per our agreement, but for the last four months I have not been paid. Any ways since this water supply has significant contribution to my family; I still get up early in the morning to open the water point for morning distribution. In the mean time, I clean the cattle through, shower rooms and the stand posts. When women and children fetch water, I warned them not to wash their *madiga* and *jerricans* and not to throw grasses and leaves at the water point as well. Especially during weekends, I spare almost half day there at the water point to serve clients from Yismala town who are regular customers of our public shower and during the dry season, I spare an average of eight hours a day in order to serve the large number of customers. In addition to all these, I attend the breakdown of faucets and gate valves and then I immediately report to the committee for appropriate action."

The above case illustrates those women WATSANCO members are patient enough than men. This may emanates from their reproductive roles. Abebech, as the primary provider of water for her household members, she prefers to bear the delay of payment and still operate and guard the service. However, during the discussion with Abebech the researcher has observed that she was almost getting desperate and on the verge of leaving her tasks. Therefore, the WATSANCO of Gudri *gotte* should pay her salary as soon as possible.

5.4.3 The Extent of Women and Men Representation in Water Supply and Sanitation Committees

Though women are playing a great deal of roles in WATSANCOs, water supply and sanitation management committees in Komma, Dibdab, Gudri and Ghist *gottes* are generally dominated by male in terms of division of labor among members. Women members were less represented in decision-making positions. The following table shows the division of work among WATSANCO members.

Table 7: Division of Responsibilities among Women and Men Water Committee Members

No	Position held In committee	Gotte								Total		Grand Total
		Komma		Dibdab		Gudri		Ghist				
		Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	
1	Chair person	-	1	-	1	-	1	-	1	-	4	4
2	Secretary & accountant	1	-	-	1	1	-	-	1	2	2	4
3	Cashier	-	1	-	1	-	1	1		1	3	4
4	Store keeper	-	1	1	-	-	1	-	-	1	2	3
5	Controller	1	-	1	-	1	-	1	1	4	1	5
Total		2	3	2	3	2	3	2	3	8	12	20

There are four WATSANCOs in each *gotte* with a total member of 20 individuals out of which women constituted eight (Table 7). Though women WATSANCO members are not well represented in key decision making positions like men, the proportion of women and men WATSANCO members (8 to 12) can be taken as fair representation of women in WATSANCOS. In addition, only two women in Gudri and Ghist *gottes* held key positions like cashier and secretary. As to educational background and marital status of women and men committee members, the background information from WATSANCOs group discussion revealed that all men and six women committee members were married. In terms of educational background, three women committee members were illiterate; one member completed grade eleven; and the rest able to read and write. On the other hand, all men water committee members were able to read and write and the highest grade completed was grade five. From this it can be seen that in terms of education and

marital status, there were no major differences among women and men committee members. The question is why women underrepresented in key positions? Previous studies like NEK (2000) indicated that the absence of women from committee leadership positions were the outcome of their inadequate education. But, this study came up with different factors. The findings are discussed in the following section.

5.4.3.1 The Causes of Women Under-representation in WATSAN Committees

According to women WATSANCO informants from the community of Komma, women and men WATSANCO members work equally, but women were not in key decision making positions because the communities listens and respects men. Women committee members due to their low social position, domestic work burden, and discouragement from their husbands did not own leadership position. Dibdab *gotte* women WATSANCO members also said that the power relations between women and men members are not equal and usually men manipulate women members. The following case illustrates the unbalanced power relations between WATSANCO members and manipulation of male committee members over women.

Those who have most to involved, least rewarded: Dibdab WATSANCO

Dibdab water point users have decided the costs of operation, maintenance, monthly salary of water point operator and guard should be covered from income earned by sale of vegetables and grasses cultivated at the down stream of the water source. Villagers believe that the amount of money that could be generated from these two sources is adequate enough to cover the explained costs. In order to run the vegetable production in an effective manner, all water point users have agreed to work and cultivate on shift basis as per the schedule set by WATSANCO at the vegetable field. One of the women WATSANCO members of the *gotte* was assigned to coordinate the overall activities of vegetable production. A daily schedule prepared and each day five villagers have been assigned by WATSANCO to cultivate the garden. In addition to arduous domestic tasks at their home, women have spent a considerable time and energy in digging, planting, weeding, and watering vegetables. At the end varieties of vegetables such as carrots, cabbages, potatoes and other vegetables were produced. The dictatorial behavior of men

committee members emerged at this point. A woman WATSANCO who coordinated the production processes tells the rest of the story as follows:

"I have exerted a lot of efforts to cultivate vegetables around the water point. In the mean time I encountered a lot of difficulties when I tried to mobilize the villagers. Some of them were not willing to work in the garden, though they were volunteered during the village meeting. Even others were blaming me as if I am getting extra benefits being as a committee member. Any ways, bearing all these difficulties, I managed to organize the community and able to produce different types of vegetables. I was expecting to sale the products and eager to inform our group members and for the rest of water users on the benefits that have been gained from their coordinated achievement. However, one of the male committee members has prohibited me from doing so. Finally, he sold all the products for unknown prices with out even consulting me. The reason given by him was irritating. He said: "you are good in sparing labor, but poor in bargaining capacity and if you are allowed in marketing, you would loose our money." She concluded the story by remarking that mostly women participated in the production of the vegetables by sacrificing not only their energy, but also their time and at last men who had little contribution during the cultivation time controlled the money.

According to the information obtained from various sources, the participation of women in WATSANCO in all *kebele* is less appreciated than men. Asked why women are not holding leadership positions in the committee, one of the men focus group participants in Dibdab *gotte* expressed his views in the following terms: **መምህሩ ሲያስተምሩ የጌታን መነሣት ለሴቶች ንገሯቸው አሉ። ምክንያቱም ወሬውን በቶሎ ያዳርሣሉ ለወንዶች የተነገራቸው እንደሆነ ሚስጥሩ ይባክናል ስለሚሉ ይፋ አያደርጉትም** this render in English as women were first told the resurrection of God. This was done for the known reason that they are quick to disseminate the information without analyzing its consequences. Had it been men were informed first, they would have been kept the information secret for the moment and think of it; where as women rushed immediately and announced the resurrection of God. He has brought this example to illustrate the inadequate capacity of women for community leading positions.

Similarly, the respondents were asked to rate the performance of women and men water committee members and the information provided by them are presented in the following table.

Table 8: Respondents Evaluation of Female Committee Members' Performance

Awareness on the existence of female committee members	**Gotte**					**Total Percent**
	Responses	**Gudri**	**Ghist**	**Komma**	**Dibdab**	
	I know	18(72%)	21(84%)	20(80%)	15(60%)	74
	I do not know	7(28%)	4(16%)	5(20%)	10(40%)	26
	Total	25(100%)	25(100%)	25(100%)	25(100%)	100
Comparative performance of female water committee members	Equal with men	7(28%)	5(20%)	2(8%)	9(36%)	23
	Less than men	15(60%)	17(68%)	19(76%)	10(40%)	61
	I do not know	3(12%)	3(12%)	4(16%)	6(24%)	16
	Total	25(100%)	25(100%)	25(100%)	25(100%)	100

The majority of respondents (74%) in all villages reported they knew women committee members, however, only 23% believe that women perform their activities as men do (Table 8).

On the other hand, an expert of Yilmana Densa *wereda* Women's Affairs Office also noted that most of married women refused to accept the position of cashier due to fear of their husbands. Husbands were not in a position to support their wives to keep public money in their house due to fear of any loss that could happen. Women themselves were not comfortable to keep money at home since they did not believe that it is safe at home to keep money. The ORDA/WAE project facilitator of Achefer *wereda* added that in communities women regarded as less capable than men to cope up the challenges of the position like chairpersonship. This was mainly because communities have little confidence on women's ability in organizing and leading the villagers. The discussion

held with women WATSANCO revealed that even women themselves were reluctant to accept such positions due to lack of confidence.

For the question raised on the relevance of including women in the WATSANCO, women members from the Dibdab *gotte* pointed out that, though women committee members contribute their part, the existing women members were elected due to the instruction given from Yilmana Densa *wereda* Water Desk; otherwise the community would have elected all male members. Male committee chairperson of the same WATSANCO further noted:

> *"Women were elected in our committee just to respect their equality and to follow the instruction of the RWSEP. Otherwise most of the committee activities carried out by male committee members and women members not active as men to handle every aspect of committee works."*

Moreover, the key informants from Ghist *gotte* also reported that women would not able to resist all ups and downs like men if they were given key decision-making positions. A key informant in Gudri *gotte* added women due to their domestic burden and lower level social status in the community were not willing to accept key positions. A woman who stays out of her home and active in public affairs is considered as unmannerly. Especially, married women are not expected to be involved in such activities. There is also pressure from their husbands. Women's participation in water committee is affected by their responsibility of reproductive (domestic) tasks. The domestic works are not seasonal so every day there are the same cooking, cleaning and other tasks to be carried out that limit women in private sphere.

5.4.4. Training of Women and Men Water Committee Members

Training is usually meant to achieve better project results leading to sustainability of water supply systems. The meaningful involvement of both women and men also requires training of community members. This section describes the training given to women and men WATSANCOs and its implications to the sustainability of water supply and sanitation services.

As indicated by women and men WATSANCO members, in Komma, Dibdab, Gudri and Ghist *gottes,* training was given on different topics, such as how to organize and mobilize

users; mechanisms of collecting money; keeping and updating records; reporting to villagers; and maintaining the water schemes operational. In addition, through hygiene education sessions, women were trained in proper handling and use of water supply and sanitation facilities. Men have received the skill of latrine construction and hand washing facilities. Men members in Komma *gotte* have trained to become artisans and changes in these areas have taken place in other *gottes* (Ghist, Dibdab and Gudri*)*. Training was given to women caretakers in those places, though most of them were not active like men.

For the questions raised what were the obstacles of women trainees, the ORDA/WAE project officer pointed out that married WATSANCO members were not encouraged by their husbands particularly when the venue is outside their villages. He also added that some men stayed at the training session to watch their wives. Women committee members during focus group discussions also commented that it was difficult for them to attend a weeklong training program by leaving their households and children behind. The situation was more difficult for female household headed committee members. For instance, one of the female household heads WATSANCO members in Komma *gotte*, who sale *tella and arake* as a means of survival said: "when I was participating at the training program in Adet town, seven km away from my house for eight days, I faced the problem of losing money." This shows that women's traditional domestic roles pose problems when they leave home for meetings and training. As pointed out by the informant's committee works also entail a heavy demand on women's labor, time and sometimes in conflict with other domestic tasks.

5.4.5 The Role of Women and Men in Village Level Operation and Maintenance (VLOM)

As indicated in the literature by (Harvey and Reed, 2004), key aspect of maintenance is preventive and corrective that should be undertaken by WATSANCOs. From the observation of existing rural water supply schemes in Dibdab, Komma, Gudri and Ghist *gottes*, it was possible to learn that the practice of care taking by WATSANCOs found good; where as weak in undertaking timely preventive maintenance. Although

WATSANCOs in all villages were trained during the project implementation, many of them did not perform either preventive or corrective maintenance. As observed, communities are still dependent on support agencies from *wereda* water desk. For instance, some faucets and gate valves in Gudri and Dibdab springs were out of service. In Dibdab the shower was non- functional and there was water flowing day and night due to damage of faucets.

ORDA/WAE and RWSEP, cognizant of WATSANCO's inadequate capacity in undertaking corrective maintenance, have given trainings to artisans who were drawn from all project sites. According to the information obtained from Yilmana Densa water desk, there were 34 trained artisans and out of these ten were women. According to the information obtained from ORDA/WAE project officer, two artisans from each water points were trained and equipped with the required tool kits. The majority (70%) of trained artisans were men. All trained artisans have a responsibility to undertake preventive and corrective maintenances; where as WATSANCOs, perform the care taking activities.

An attempt was made to see how women and men artisans are actually performing the maintenance work by interviewing two artisans: one woman and one man. The findings are described bellow.

The frequent cause of in-operation of hand pumps according to one male informant in Yilmana Densa wereda was breakdown of hand pumps causing disruption; where as for spring schemes breakdown of pipes from the spring outlet and collection chamber were the main cause. Masonry that causing leakage and damage of faucets due to community's misuse of it by over tighten and rotating clockwise instead of anti-clockwise were also mentioned as main cause for in-operation of spring systems.

When asked about the duties of artisans and benefits gained from it, a woman artisan (Mihiret Alemu) replied that she has the responsibility of undertaking both preventive and corrective maintenance as per the demand comes from WATSANCOs in any village. Regarding the benefits, she said:

"During the construction of new water supply schemes, the WATSANCOS paying me an average of Birr 1,500 depending on the depth of the wells. For instance, if the well is up to 10 m deep the WATSANCOS pay me 2,000 Birr."

She further explained that she do not request payment either for preventive or corrective maintenance for the new water supply schemes that were installed by her. She gives a year time guarantee for the community. As indicated by interviewed artisans, there were no differences between women and men artisans regarding the quality of work and both women and men artisans have similar demands by WATSANCOs. The following explanation made by one of the artisans from Yilmana Densa wereda illustrates this.

Mihiret Alemu, a married and an eight grade completed woman is one of the trained artisans by RWSEP in Yilmana Densa wereda. Asked how she undertakes village level operation and maintenance, she said:

I attentively supervise at least once in a week the water supply schemes in villages if flange bolts and nuts are tight, if not, I will check fulcrum and rod hanger pin nuts. Every three months, I check the handle, if the handle is about to touch the pump head sides, I report to replace the bearings. If unusual noise is noticed, I will take corrective action. I also check if the pump stand is shaky during operation, leakage in the pump, and also water discharge level." Asked what problems she has encountered as a woman artisan, she replied "except the tasks of stone layering which is mostly done by men, I have not encountered any other obstacles.

5.4.6. The Role of Gender in Integration of Water Supply with Sanitation Services

This section presents and discusses the findings of the study concerning how women and men work together in protecting their water sources from pollution; practicing safe waste disposal including children excreta; enhancing the practice of hand washing; and promoting latrine use at the village and household levels.

Reviewed documents and interviewed project staffs at RWSEP and ORDA/WAE revealed, in both organizations promotion of sanitation and hygiene education was considered as their priority areas of intervention. There is a community sensitization program called *"Buna Inteta"* (let us drink coffee) initiated by project staff of ORDA/WAE which is an innovative and effective approach that helps to address all community members for promotion of hygiene and sanitation education. *Buna Intetea*

community learning program is carried out once in a month. In this monthly program, ORDA/WAE provide a kilo of Coffee and sugar for the ceremony, one of the women cook coffee and then all village women and men come together under the tree near their village to discuss about personal hygiene; hand and cloth washing practices at critical times; care of children's personal hygiene; house and compound sanitations; environmental sanitation, waste disposal pit; latrine construction; and horticultural activities.

Well-trained women and men village health communicators (VHCs) explain to their respective communities during *'Buna Inteta'* program and show how to construct latrines out of mud brick walls and use of termite resistant wood. They also demonstrate to the communities how to prepare hand-washing devices using local materials such as *'kill'* and *jerican* by attaching used pen.

Another interesting community sensitization approaches applied by ORDA/WAE is 'Flag Promotion'. This is to initiate health awareness of villagers and creation of fair competition among them. The observation made in some households revealed that flags were fixed at the gate of few households. Asked what does this flag mean, one of Gudris' village women said:

> *"My family had constructed latrine with hand washing, pit for solid waste disposal and kept our compound clean. I also made shelves out of wood and mud and covered it with curtain to keep away from flies. During our Buna Inteta program, I and my husband have awarded red color flag by the communities in order to recognize and praise of our good efforts."*

It was also learnt that villagers who received green flag were those who fulfilled two sanitary components; where as white flag owners were those who had constructed their own private latrine, waste disposal system and improved household management. The main reason behind such initiative as reported by ORDA/WAE project staff members was to motivate the villagers, to create competition among them and recognize their efforts. ORDA/WAE trained 27 women and 21 men VHCs who educate and demonstrate their communities on how to construct latrine, hand-washing habits of households, and monitor water sources from pollution and promote environmental sanitation. The

following case illuminates the role of women in the promotion of integration of water supply services with sanitation.

Tighist Chernet: Village Health Communicator

Tighist Chernet, a young girl who lives with her parents is one of the trained VHCs (health promoters in Ghist *gotte*). Asked what her role as VHC she replied: "when I train the community during "*Buna Inteta*" program my father was surprised. He never expected me trained as VHC and able to talk in front of villagers, but gradually he was convinced and started to motivate me. He also has constructed our family latrine with hand washing facilities. In previous times, women used to defecate at the back of their compounds only twice a day. Children were allowed to defecate everywhere in the compound and even in the home. Men usually defecate around the bush. But since we have started our Buna *Inteta* program once in a month, the sanitary habits of our villagers have improved significantly and many of them have started constructing latrines. Initially villagers were hesitant to dig latrines because they thought that it would get full after short period of time. However, my colleagues and I demonstrated how to prepare compost out of it and use as natural organic fertilizer. I also tell and supervise villagers not to dig more than three meters deep for latrine in order to protect community's hand pump and ground water sources clean from pollution."

RWSEP also strongly recognizes the important roles of women in the household and in environmental sanitation; women's principal tasks in management of the household environment; cleaning house compounds; keeping the sanitation of children, elderly and all household members. In addition, its approach to health promotion program was based on establishing networking with communities, groups, households and individuals.

From RWSEP's approach, it was learnt that 'contact women' play a great deal role in disseminating hygiene education program. RWSEP believes that women poorly attend most social activities and communication in rural communities, such as religious and community meetings. To enhance the role of women in community hygiene sensitization

programs, RWSEP follows women for women by women approach by establishing 'contact women' group at each water supply and sanitation project area.

According to the documents obtained from RWSEP office, contact women are responsible for continuous hygiene education and sanitation promotion at the household level. Five contact women were trained per water point and each contact woman teaches and supervises 15 households. Contact women were given training using operational manual. The contact women have the responsibility to control the water sources and stand posts clean. They promote the hand washing habits of villagers; educate women on improved house management and use of latrine. The following case shows the key role played by one of the contact women in Dibdab *gotte*. W/ro Elfinesh Kassie, who lives in Dibdab *gotte* with her husband and four children, nominated as a contact woman by Yilmana Densa *wereda* RWSEP coordination office and by residents in her village based on her participation during village hygiene education. Asked what she did as a contact woman she replied:

> *I teach 15 households how to keep water clean both at the source and storage in the home. I also inform women not to collect water from unsafe sources and encourage them to wash their bodies at least once in a month at the public showers located at the side of their water supply scheme. I also try to convince them that cleaning roofs and houses during evenings has nothing to do with lose of wealth and teach them how to keep and clean their household utensils. Most of the time, I contact my groups during our informal meetings. I have also a permanent visit once in a month in my group member's household in order to observe cleanness of water use and storage in the house.*

5.5 Gender and Intra Household Aspects of Water and Sanitation

This part describes the division of labor in water fetching; daily water consumption and use; management of water and waste disposal; habit of latrine use and hand washing practices; means of water transportation; and cleanness of water storage in the house.

5.5.1. Division of Labor in Water Collection

Findings of household survey regarding the division of labor in water fetching revealed that it is women's responsibility to fetch water in all villages, although men sometimes do so in case women not due to illness or other reasons. Daughters, daughter-in laws or maids also fetch water for household consumption. Sometimes male children participate in water fetching not by *madiga* but with *jerrican* and *kill*.

The purpose of this discussion is not to describe the already known fact with regard to responsibility of water fetching among rural communities. However the analysis tried to explain the existing structural factors that perpetuate the traditional division of labor between women and men and to show the time consumed to fetch water by women that prevent them from participation of productive activities. As the literature on women's domestic work burden indicates, fetching water is quite time consuming and strenuous activity. In order to obtain women's perception regarding the time they spent to fetch water from the developed sources, they were asked to estimate their time consumption. Their reply presented in the following table.

Table 9: Women Respondents on their Time Consumption for Fetching Water from Improved Sources

Water source	Average time Required for round trip	Gotte								Total
		Komma		Dibdab		Gudri		Ghist		
		F	P	F	P	F	P	F	P	
Developed spring	<15 minutes	0	-	4	26.7	2	13.3	0	-	6
	15-30 minutes	0	-	11	73.3	13	86.7	0	-	24
	Total	0	-	15	100	15	100			30
Hand Pump	< 15 minutes	10	66.7	0	-	0	-	2	13.3	12
	15-30 minutes	5	33.3	0	-	0	-	13	86.7	18
	Total	15	100	0	-	0	-	15	100	30

As indicated in table 9, the time consumed varies considerably from one village to the other. There are differences among families due to the distance between home and the water points. The time needed for water fetching also differs from day to day. The

longest time is usually spent on Friday, while water fetching is not common on Saturday and Sunday. According to women respondents, 73.3 % of Dibdab, 86.7 % of Gudr*i*, 33.3 % of Komma and 86.67% of Ghist get their water between 15- 30 minutes for round trip from improved water supply schemes. Besides, women focus group participants in all *gottes* reported that queuing time at water point during dry season is high; where as low in rainy season.

It would seem that the traditional gender division of labor is perpetuating women's subordination and inequality in the household. Gender roles are not static and subject to change however, like in other parts of rural areas, gender roles in traditional Amhara communities remained static. As reported by respondents, it is not normal for adult men to fetch water for their families. It is considered as a taboo by many rural adult men to fetch water especially by *madiga*. If they do so they will be undermined not only by community members, but by their own wives.

Regarding adult men's involvement one of the female respondents, in Komma *gotte* said; "I would never expect my husband to carry water. I am enough to do this; his job is outside the home." The comment made by a 73 year old man key informant from Debr Mewi kebele, Komma *gotte* clearly illustrates how the traditional role of women and men is perpetuated by the structural factors. Regarding whether adult men fetch water, he said:

> *There was a man in our village that fetches water from the spring. His name was Fente. He always rose early in the morning around 5 a.m. to fetch water from the spring source. He rose early in order not to be identified by villagers, though he could not escape from being recognized. Gradually it became known by all villagers and people teased at him by saying Fente, go and fetch water before the birds taste it.*

Focus group informants from Gudri, Ghist and Dibdab gottes added that women and men work equally in agricultural activities except ploughing, but it is not culturally accepted by community to expect adult men to bring water to home unless their wives are in difficult situations.

5.5.2 Types of Containers Used for Water Fetching, Means of Transportation and Storage in the House

The rural communities in all *gottes* use *madiga, jerican* and *kill* to fetch water. When asked to indicate the types of containers they used for water fetching, the respondents provided the information and presented in the following table.

Table 10: Types of Containers for Fetching Water

Wereda	Gotte	Type of containers used for fetching water								Grand Total
		Madiga		Jerrican		Kill		Barrel		
		Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency
Yilmana Densa	Komma	21	38.9	1	3.2	3	20.0	0	-	25
	Dibdab	13	24.1	8	25.8	4	26.7	0	-	25
Achefer	Gudri	5	9.3	12	38.7	8	53.3	0	-	25
	Ghist	15	27.7	10	32.3	0	-	0	-	25
Total		54	100	31	100	15	100	0	-	100

The majority of respondents (54) indicated that they use *madiga* for fetching water (Table 10). The size of a *madiga* varies from one locality to another between 15 to 20 liters. The bigger container, *gan*, has the same shape like *madiga*, but is not used for fetching water. However, in Gudri and Dibdab, women reported use of *jerricans* (used earlier for edible oils) for fetching water. Female children in Gudri, Dibdab, Komma and Ghist *gottes* use *massero*/small pot/ and male children *kill* as containers for fetching water. Due to the influence of cultural factors male children did not use any kind of pot/ *madiga* for fetching water. Regarding containers used for storing water, respondents were asked the types of containers they use to store water. Their reply is presented in the following table.

Table 11: Types of Containers for Storing Water

Wereda	Gotte	Types of Containers for strong water								Grand Total
		Gan		Jerrican		Ensira		Barrel		
		Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency
Yilmana Densa	Komma	23	33.8	0	-	2	9.1	0	-	25
	Dibdab	18	26.5	3	30	4	18.2	0	-	25
Achefer	Gudri	8	11.8	5	50	12	54.5	0	-	25
	Ghist	19	27.9	2	20	4	18.2	0	-	25
Total		68	100	10	100	100	22	0	-	100

As the above table depicts, the majority respondents (68) repotted that water is usually stored in the house in *gan*. Women focus group participants reported that *gan* is placed on wet cloth which covers the *gan*. This method is for cooling and keeping the *gan* and hence the water cool. Concerning means of transportation, respondents were asked the means of water transportation to home and the information obtained from them is presented in the following table.

Table 12: Means of Water Transportation

Wereda	**Gotte**	**Means of water transportation**								**Grand Total**
		Carried by member of family		By water vendors		Carried by women and girls		By donkey		
Yilmana Densa	Komma	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	F
		6	33.3	0	-	19	23.2	0	-	25
	Dibdab	2	11.1	0	-	23	28	0	-	25
Achefer	Gudri	7	38.9	0	-	18	22	0	-	25
	Ghist	3	16.7	0	-	22	26.8	0	-	25
Total		18	100	0	-	82	100	0	-	100

Of all respondents, 82% of them reported that *madiga* or *jerican* carried on women's back, with leather strips kept over the chest. The tin can is put on the top of the water, in the container, to keep the water clean from item otherwise dropping inside.

5.5.3 Daily Water Consumption and Use

Komma, Dibdab, Gudri and Ghist *gottes* are endowed with traditional water sources such as river, unprotected spring, and hand dug wells and ponds. However, the main source of potable water for Gudri and Dibdab is developed springs and hand pumps for Komma and Ghist *gottes*. The supply and quantity of water sources changes considerably from season to season. For this reason communities water consumption level and intensity of use from particular sources vary during dry and wet seasons. Women focus groups informants in Komma *gotte* reported that during dry season they are allowed to fetch only two *madgas* of water from their hand pump and they buy additional water from privately owned hand dug wells at the cost of 0.25 cents per one pot.

During dry season, the majority of the respondents (72) from Komma and Ghist *gottes* mentioned hand pump is their first primary source of water for drinking, cooking and cleaning utensils as it is clean water. Hand dug well is sited as their 2nd source because of short distance and adequate availability. On the other hand villagers in Gudri and Dibdab reported that developed spring is their primary source of water for the above-mentioned purpose of use and for the explained reasons of best quality as well as availability.

River water is mentioned as the primary source for the purpose of washing clothes and livestock watering in Ghist and Komma *gottes*; whereas people of Gudri and Dibdab use their spring source for the same purpose. It was reported by the Dibdab group women informants that villagers are not allowed to wash their clothes from the scheme on Monday and Saturday during dry season due to decrease of water yield.

Like in Komma *gotte*, villagers in Ghist are allowed to fetch only two *madigas* of water daily for drinking purpose during dry season. They use alternative sources for cleaning utensils such as hand dug wells and Gashina and Shutan rivers for washing clothes and livestock watering. On the other hand, there is no scarcity of water supply in Dibdab and Gudri *gottes* and users were allowed to fetch water according to their needs.

With regard to gardening, Dibdab villagers mentioned that spring is the first primary source of water for the reason of its availability; the rest of the villagers indicate that hand dug well is since it is cheaper and availability. In all cases developed sources were mentioned as the primary source of water during special occasions (marriage celebrations, holy days, *Mahiber* and *Senbete*) and hand-dug well is mentioned as secondary. For washing body, 72% of Komma and 81% of Ghist respondents indicated water from hand pump primary source and undeveloped spring as secondary source due to good quality and availability, respectively. The rest of villagers in Gudri and Dibdab reported that developed spring source as the primary source of water for washing their bodies due to availability of adequate and safe water. Concerning income generating activities such as preparation of local alcohols like *tella* and *arake*, water from developed sources was indicated as the primary source because of its best quality in all villages.

During the rainy season surface water is available in all villages and for this reason generally developed schemes were used for the purpose of drinking; cooking; cleaning utensils; washing bodies; and during special occasions. In addition, household respondents in all *gottes* mentioned that roofs water collected from catchments and rain water as their primary source for washing clothes. Hand-dug wells are also indicated as primary source of water by 20% respondents for the purpose of cleaning utensils due to its availability and short distance. Hand pump users in Ghist and Komma *gottes* reported livestock use unprotected spring.

5.5.4. Management of Water in the Household

Women not only do most of the work in water collection, but also take most of the management decisions regarding water use at home. They decide which water source to use for various purposes, how much water to use, and how to transport and store.

The complexity of water use pattern was illustrated by the investigation carried out in two *gottes* in Komma and Ghist. In-depth interviews on women's decision-making patterns on use of water revealed that water collected from hand pump is used for drinking since it is clean and has good taste. Children are not supposed to use this water for any other purpose. Water obtained from well is used only for washing clothes and kitchen purposes.

In Ghist and Komma women conserve the cleanest water fetched from hand pumps for drinking, cooking, face washing, cleaning utensils and food. Grey water is reserved for washing and rinsing clothes and for watering plants. Water used for washing utensils is given to poultry and cattle, and water used for clothes washing is reserved to clean dishes. In such a way women manage the domestic recycling use of water. Women also decide the economic use of water. Domestic water that is collected from developed sources also used for *tella* and *arake* making. Women also use water drew from unprotected source for plastering walls and floors with cow dung.

Women in the households control hygienic use of water. They are responsible for water storage in safe places, extraction by clean cans and conservation of water. When asked if they wash their water containers with clean water, the respondents provided the information and presented in the following table.

Table 13: Cleaning of Water Containers by Women Respondents

Wereda	Gotte	Manner of washing water containers						Grand Total
		With any water		With clean water		With clean water and Grawa		
		Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency
Yilmana Densa	Komma	3	33.3	5	15.6	7	36.9	15
	Dibdab	1	11.1	11	34.4	3	15.7	15
Achefer	Gudri	3	33.3	8	25	4	21.1	15
	Ghist	2	22.3	8	25	5	26.3	15
Total		9	100	32	100	19	100	60

Before starting a journey to fetch water, most women clean the *madiga*, and ensure that all the necessary accessories such as can to cover the mouth and to keep the water from splashing are also there. Women respondents reported that they wash their water containers with clean water and 'grawa', local plant whose leaves are normally used by women to wash madigas. This was reported by 32 and 19 of the respondents. 15% respondents mentioned that they wash containers with any available water (Table 13).

Regarding cleaning of water storage in the house, women respondents were asked if the water storages are washed frequently. Their reply is presented in Table 14.

Table 14: Cleaning of Water Storage by Women Respondents

Wereda	Gotte	Manner of cleaning of water storage								Grand Total
		Daily		Every other day		Every week		As need arise		
		F	P	F	P	F	p	F	p	F
Yilmana Densa	**Komma**	5	29.4	1	10	2	66.3	7	23.3	15
	Dibdab	3	17.6	4	40	0	-	8	26.7	15
Achefer	**Gudri**	4	23.5	3	30	0	-	8	26.7	15
	Ghist	5	29.5	2	20	1	33.3	7	23.3	15
Total		17	100	10	100	3	100	30	100	60

Half of women respondents (30) indicated that they wash water containers as the need arises, meaning when it gets dirt; where as 17 of them replied they clean water containers on daily basis. Only three respondents said every week (Table 14). Women group informants in all villages explained that the madigas are cleaned using water, often with some sand and ash mixture rubbing, and sometimes with *woira*/olive trees twigs are burned inside. Though the latter is said to be for "taste" of the water or especially if it is used for *tella*, it certainly has also positive hygiene impacts. They also added that the new plastic containers (*jerricans*) could not clean in the traditional way.

5.5.5. Gender Aspects of Household Hygiene Practices and Environmental Sanitation

The observation made in Komma households revealed that most of the residents were living in unhygienic conditions. Regarding sanitation, hygiene practices and waste disposal systems, major problems identified by interviewees in this *gotte* were open defecation and smell. All systems of defecation were found at risk contaminating food, water sources, and hand and feet contamination (especially when used as fertilizer on vegetables which were usually inadequately washed) via animals and flies. Household respondents were asked the availability of latrine and the information obtained is presented in the following table.

Table 15: Availability of Latrine in Surveyed Households

Availability of latrine	**Gotte**	**Responses**				**Grand Total**
		Yes		**No**		
		Frequency	Percent	Frequency	Percent	
	Komma	8	14.3	17	38.6	25
	Dibdab	18	32.1	7	16	25
	Gudri	16	28.6	9	20.4	25
	Ghist	14	25	11	25	25
Total		56	100	44	100	100

Table 15 shows that 44% households did not have latrines; whereas relatively a considerable number of households in Gudri and Dibdab *gottes* have their own latrines. Latrine use was found in a better condition in Dibdab *gotte*. Interviewed men in this

village mentioned that the majority of households in their area use latrines constructed by households using their own labor on advice and encouragement from RWSEP promoters. The community learning approaches followed by ORDA/WAE i.e. coffee ceremony (*Buna Inteat*) improved the use of latrine in Gudri and Ghist *gottes*. For instance, women WATSANCO informants in Ghist *gotte* explained that earlier women were not using latrines and defecated at their vegetable and suffered from bad smell while they were harvesting vegetables from their garden. Now a day's latrines are constructed in many households and this ensured women's privacy however, few households in Gudri *gotte* did not yet dig latrines because husbands would not use it. During the focus group discussion held in Gudri, one of the women WATSANCO members said: "I did not yet construct latrine because my husband is a guard in one of government offices in Yismala town and he usually use latrines at his work place." Women focus group participants in the same village also explained that even if women are interested to have latrine, they cannot dig pit latrine unless the latrines are used by men. For the question raised if all household members use latrine, the respondents provided the data are presented in the following table.

Table 16: Percentage Distribution of Respondents on Use of Latrine

Regular use of latrine by household members	Responses		Total
	Yes	No	
	Percent	Percent	
Adult male	35	65	100
Adult female	65	35	100
Boys	45	55	100
Girls	61	39	100

Most of the respondents (65%) indicated that adult women regularly use latrines. Asked why adult men and boys were not regularly use latrines the focus group participants from Dibdab reported that since men stay most of the time outside their homes use open fields while boys would use school latrine.

As to personal hygiene, there was awareness on the importance of hand washing in all villages. However, observation made at the household level shows that villagers rarely wash their hands with soap after using latrines. Soaps were not commonly found at the

hand washing facilities. It was also observed that adult men washed their hands before eating, while children did not. When asked if they wash their hands before eating the information they have provided is presented in the following table.

Table 17: Hand Washing Practice of Respondents before Eating

If hands are washed before eating	Responses	Gotte								Grand Total	
		Komma		Dibdab		Gudri		Ghist			
		Female	Male	Female	Male	Female	Male	Female	Male	F	M
	Yes	10(66.7%)	7(70%)	11(73.3%)	7(70%)	10(66.7%)	60(6%)	12(80%)	7(70%)	71.7%	67.5 %
	No	5(33.3%)	3(30%)	4(26.7%)	3(30%)	5(33.3%)	4(40%)	3(30%)	3(30%)	28.3%	32.5 %
Total		15(100%)	10(100%)	15(100%)	10(100%)	15(100%)	10(100%)	15(100%)	10(100%)	100	100

As indicated in the above table, 71.7% of women and 67.5% of men respondents mentioned that they wash their hands before eating. Though efforts were being made by village health communicators in Gudri and Ghist and by the contact women in others to promote the hygienic use of water at households, water use in most households was unhygienic. A common practice shows that there is a habit to keep single cup/can on top of the *madiga* and every time someone wants a cup of water, the entire cup and hand are dipped into the *madiga*. Such unhygienic use of water can easily contaminate the entire water. Findings of the study shows that in all villages, stools of breast fed children are not regarded as polluting and the stools of young children are seen as less polluting than that of adults. This affects mothers' attitude towards safe disposal of stools. For the question what benefit women have gained from having a latrine, privacy and comfort were the main responses. The respondents were also asked to indicate the practice of hand washing after defecations and the table that follows gives their responses.

Table 18: Hand Washing Practice of Respondents after Defecation

If hands are washed after defecation	Response	Gotte								Total
		Komma		Kudad		Gudri		Ghist		
		Male	Female	Male	Female	Male	Female	Male	Female	
	Yes	8(80%)	12(80%)	7(70%)	15(100)	9(90%)	13(86.7%)	7(70%)	14(93.3%)	85
	No	2(20%)	3(20%)	3(30%)	-	1(10%)	2(13.3%)	3(30%)	1(6.7%)	15
Total		10(100%)	15(100%)	10(100%)	15(100%)	10(100%)	15(100%)	10(100%)	15(100%)	100

As it can be seen in the above table, 85 respondents mentioned they wash hands after defecations. The survey result also shows that women's practice of hand washing was 54% of all respondents. In order to confirm the discussion made in section 4.2.6, respondents were asked whether they had received hygiene and sanitation education. Their reply is presented in Table 19.

Table 19: Respondents Received Training on Sanitation and Hygiene Education

Wereda	Gotte	If sanitation and hygiene education are received				Grand Total
		Yes		No		
		Female	Male	Female	Male	
Yilmana Densa	Komma	10(26.3%)	8(26.7%)	5(22.7%)	2(20%)	25
	Dibdab	8(20.1%)	7(23.3%)	7(32%)	3(30%)	25
Achefer	Gudri	11(29%)	6(20%)	4(18.2%)	4(40%)	25
	Ghist	9(23.7%)	9(30%)	6(27.3%)	1(10%)	25
Total		38(100%)	30(100%)	22(100%)	10(100%)	100

Table 19 shows 38% of women and the majority of men (30%) respondents indicated that they have received training from RWSEP and ORDA/WAE offices. The remaining (32%) of women and men respondents claimed that they did not attend such kind of awareness program.

5.6 Women's and Men's Perception on the Existing Water Supply and Sanitation Services

The literature review in section 3.1.7 shows that consideration of the link between hardware and software components of RWSS contributed a great deal in adjusting the service design to users demand and to address gender needs such as washing and bathing locations. Such consideration also helps to promote community's sense of ownership. In the following discussion attempt was made to describe and explain the relationship to this theoretical review with actual women's and men's perception regarding the design structure; appropriateness of technology; site of water points; distance; quality and quality, tariff level; ability and willingness to pay for the services, and benefits gained from the improved water supply and sanitation services (Schouten and Moriarty, 2003).

5.6.1 Design, Structure and Type of Technology

The construction of washbasin, cattle trough and other supplementary structure should take into account the supply level of water points and the size of user population. However, poor washing basin and cattle trough has been observed in Komma *gotte*. These structures, as reported by interviewed women and men group informants, were constructed without assessing the population size and water supply/yield level. As a result, the facilities were remained unused. The existing circular washbasin is not enough for the entire villagers. The size of cattle trough was too small and cannot accommodate all the cattle.

Similarly, communal laundry and public shower facilities in Dibdab and Gudri *gottes* were built on the same compound of water distribution points. These were intended to save women's time and relieve them from walking long distance to the rivers or springs. However the group discussions carried out with women of the two *gottes* has brought unexpected result. Village women especially those of married/ wives do not take bath at these facilities. When asked why they did not bath at these public facilities, one of the women participants said:

> *"The shower is constructed with corrugated iron and women's and men's rooms partitioned with iron sheet which is not convenient for privacy. I also embarrassed to take bath in the presence of men."*

The laundry basins which are rectangular sinks at adult waist height in Dibdab and Gudri *gottes* where appreciated by men and women focus group informants. However, women informants in Gudri *gotte* claimed that traditionally, women in the village wash clothes in a squatting position. The new washbasins required that women stand instead of squat to do their chores. As a result they have to tight their dresses between their legs until they complete the chores. In the contrary, women group in Dibdab *gotte* reported no problem with their laundry basins. Regarding fencing it was observed that all water points were properly fenced to protect from some community members who are not eligible to use the scheme and damage of the water points. There are also guards that are hired in all water points, one female guard the rest are males. The guards have a responsibility to operate the water points as per the schedule given from the WATSANCO. In all cases the

communities do not like to fence water points by stones because stones are believed to be breeding grounds for rats and snakes. Concerning the environmental sanitation of water points, the observation made together with WATSANCO members in Gudri revealed that the spring source was not properly kept from both animal and human defecation. The drainage was found also poor in this spring system. No water supply scheme can be considered as safe if the area it serves is poorly drained. On the contrary the spring source in Dibdab *gotte* is well protected that assure good quality of water supply services. The water source in Dibdab spring is not easily reached by livestock and hence, les likely for pollution. Komma *gotte* has no risk of contamination because it is located far from upstream dwellers and similarly, Ghist water source is located at up stream and is not likely for contamination. As to the structural set up of hand pumps and developed schemes, women respondents were requested to indicate their view. Their replies are summarized in the following table.

Table 20. Perception of Women Respondents on the Technical Structures of WSS Services

Technical Structures	**Gotte**								**Total**
If platforms are convenient for sitting of pot	**Responses**	**Komma**		**Dibdab**		**Gudri**		**Ghist**		
		F	P	F	P	F	P	F	P	F
	Yes	14	93.3	15	100	4	26.7	4	26.7	44
	No	1	6.7	0	-	11	73.3	11	73.3	16
	Total	15	100	15	100	15	100	15	100	60
If platforms are convenient to load on back with out assistance	Yes	14	93.3	13	86.7	3	20	5	33.3	35
	No	1	6.7	2	13.3	12	80	10	66.7	25
	Total	15	100	15	100	15	100	15	100	60
If platforms are convenient for sitting of jerican	Yes	11	73.3	13	86.7	14	93.3	13	86.7	51
	No	4	26.7	2	13.3	1	6.7	2	13.3	9
	Total	15	100	15	100	15	100	15	100	60
If the handles are convenient to operate	Yes	11	73.3	0	-	0	-	12	80	23
	No	4	26.7	0	-	0	-	3	20	7
	Total	15	100	0	0	0	-	15	100	30
If the faucets are convenient	Yes	0	-	15	100	15	100	0	-	30
	No	0	-	0	-	0	-	0	-	-
	Total	0	-	15	100	15	100	0	-	30
If the height of the faucets is appropriate	Yes	14	93.3	11	73.3	3	20	7	46.7	35
	No	1	6.7	4	26.7	12	80	8	53.3	25
	Total	15	100	14	100	15	100	15	100	60

As the above table shows, a considerable number of women respondents in Ghist and Gudri (73.3%) from each *gotte* claimed that their water supply scheme was not convenient for sitting of *madiga* though convenient for *jerrican*. The height of stand posts were inconvenient as reported by 80% from Gudri and 53.3% of Ghist *gotte* women respondents that show their difficulties in lifting their *madigas* without assistances. As a result of this in Gudri *gotte* most women use *jerican* and *kill* to fetch water. Hand pump users in Komma (26.7%) and Ghist (20%) reported that the handles of their pump are not suitable. Women group informants in Komma *gotte* also claimed that pregnant women, small children and elderly people couldn't easily operate the handle. It is also observed in Gudri water supply scheme that the height between faucets and sitting of water fetching materials is too short that forced women to sit and lift their *jerican*, otherwise if they use *madiga* , they have to wait until somebody comes and assist them to carry.

5.6.2. Site of Water Points, Distance and Queuing Time

Communities in all villages have contradictory responses regarding the location of their water supply schemes. Those who live near to the water points have positive replies; where as those who are settled far from the schemes complain the existing locations. In any case as explained by group informants and surveyed households, site selection of hand pumps and developed springs were decided by RWSEP and ORDA/WAE project staffs. In order to obtain users perception regarding the distance of their water supply points, respondents were asked how long it takes them to fetch waster from improved sources. Their reply presented in Table 21.

Table 21: Distance Traveled to Fetch Water from Improved Sources

Average distance traveled to fetch water from improved sources	Gotte								Total
	Komma		Dibdab		Gudri		Ghist		
	F	p	F	P	F	P	F	p	F
< 100 meter	4	16	8	32	12	48	9	36	33
100-500 meter	13	52	10	40	7	28	11	44	41
500-1000 meter	8	32	7	28	6	24	5	20	26
Total	25	100	25	100	25	100	25	100	100

As the above table shows, 33% of households mentioned they can collect water at a distant less than 100 meters; where as 41% of them mentioned they need to travel up to 500m.

For the question raised on the queuing time at the water points, the response of women focus group informants in Komma and Ghist *gottes* revealed that during dry seasons there is a long queue; where as in wet season there is no queue. Villagers in Dibdab did not report on the problem of queue for all season; where as informants in Gudri reported there is queue during dry season because of influx of water users from Yismala town. Surveyed household respondents in Komma and Ghist *gottes* reported that they have to stay between nearly an hours at the water point during dry season.

5.6.3Quality and Quantity of Water, and System of Operation Hours

The majority of household respondents (89%) who use hand-dug wells explained that the amount of water fetched from the hand pump source is two *madiga*; where as up to four *madiga*s for developed spring users. The supply and quality of water source change considerably vary during dry and wet seasons; and 69% of household indicated that during dry season the amount of water they obtained from developed sources decrease especially at hand pump schemes.

In order to understand the satisfaction of beneficiaries on the quality of their water supply services, respondents were asked to rate their perception on amount of water supply during dry and wet seasons, color, temperature, and conveniences of service hours and time of water service. Table 22 on the next page gives the findings.

Table 22: Frequency and Percentage Distribution of Respondents Evaluation of the Water Supply and Sanitation Services

Respondents Rating of their WS services on different seasons	Gotte								Grand Total
	Response	Komma		Dibdab		Gudri		Ghist		
		F	P	F	P	F	P	F	P	F
Provision of water during dry season	Decrease	22	88	20	80	5	20	22	88	69
	No Change	3	12	5	20	20	80	3	12	31
	Total	25	100	25	100	25	100	25	100	100
Taste of water during rainy season	Good	21	84	23	92	24	96	23	92	91
	Okay	4	16	2	8	1	4	2	8	9
	Total	25	100	25	100	25	100	25	100	100
Cleanness of water	Clear	18	72	16	64	20	80	16	64	70
	Brownish	7	28	9	36	5	20	9	36	30
	Total	25	100	25	100	25	100	25	100	100
Water temperature	Cool	14	56	20	80	18	72	20	80	72
	Warm	11	44	5	20	7	28	5	20	28
	Total	25	100	25	100	25	100	25	100	100
Appropriateness of service hours	Very Appropriate	18	72	20	80	24	96	19	76	81
	Somewhat appropriate	2	8	3	12	1	4	2	8	8
	Not appropriate	0	-	0	-	0	-	0	-	-
	Cannot say	5	20	2	8	0	-	4	16	11
	Total	25	100	25	100	25	100	25	100	100

From the above table it can be seen that 91% of the household respondents declared that the taste of water obtained from the improved sources is suitable during rainy season. Similarly, 28% of them indicated that the water is warm that implies unable to quench their thirst. Considerable number of hand pump users (28%) in Komma and Ghist (36%) reported the color of water is brownish. Regarding the service hour and the time of

services, the majority of respondents from all *gotte* (81%) indicated that it is very suitable for them.

5.6.4 Tariff Level, Ability and Willingness to Pay

As the literature on section 2.2.1.4 indicates, operation and maintenance cost recovery for water supply in Komma, Dibdab, Gudri and Ghist was not possible. This make a big challenge in attempting to provide the rural communities with clean and safe water supply services at affordable tariff, though operation and maintenance cost recovery is still needed for sustainability.

During the course of this study it was learned that the community's willingness to pay for water fee is high that shows people from the outset have involved in labor and cash contribution that ultimately develop their sense of ownership. Focus group discussion held with women and men revealed that in both cases communities perceived the water supply projects as their own asset and property.

Women and men group informants in Komma *gotte* reported that each user pays 1 birr per month for water consumption. Monthly fee is not collected by ticket, because as explained by women WATSANCO, it adds administration costs. Half of the collected many deposited, in Commercial Bank of Ethiopia Adet branch for O&M and the rest is allocated for a monthly salary of guard. According to the explanation made by women and men WATSANCO of the same village, new members are not allowed to use from the water source. Only those households who were contributed in cash before the construction of the scheme and participated through labor and local material contribution are allowed to use the improved water system. Asked what happened to those poor people in the area, the WATSANCO chair person replied:

> *"Due to scarcity of water yield from the hand pump and large number of people, we do not accept new member even if they are willing to pay the already contributed money and the estimated cost of labor and material contribution. We only allow government employees such as extension workers, school teachers, police and others to use from our system as far as they paid the required amount of money."*

The informants did not respond regarding the question raised from where poor residents get water that implies they did not consider them for the main reason of scarcity of water supply from the improved source. During the time of focus group discussion at Komma water supply scheme, it was observed by the researcher that some poor individuals were collecting water from down stream of unprotected spring source.

On the other hand, residents in Dibdab were not paying money for O&M and use water for free. For the question raised why users did not pay the information obtained from women WATSANCO member and men focus group informants were the same. Money for O&M will be covered by selling vegetables and grasses which are cultivated by users. They obtain additional money from fee of public bath. The collected money is not kept in bank in Dibdab as reported by one of woman WATSANCO members. This has created suspicion among community that their money could be lost. This has also negative consequences on community's willingness to pay for water.

In Gudri and Ghist *gottes* users did not pay for the water supply service that implies sustainability is at risk. When asked why the users did not pay, one of the group informants from Gudri noted: "since we contributed labor, material and cash we have decided to use our water free from any fee for a year time." Though water supply system in Ghist and Gudri were constructed almost a year before, villagers still do not pay for the above explained reason. Gudri *gotte* sale water for Yismala town people especially during dry season and earn money comes from this source is used for O&M and fee for guard.

5.6.5. Benefits Gained from Improved Water Supply and Sanitation Services

Women and men key informants and interviewed group members were asked to indicate what benefits they have gained as a result of improved water supply and sanitation services. All informants replied prior to the construction the existing water supply services, women were forced to spend four-six hours a day fetching and carrying water from unsafe sources. The relationships between times saved due to improved water sources and the social or economic impacts on their lives explained by informants.

Women group informants reported they have got time to take care of themselves and increased nurturing of their families.

Women group informants in Dibdab *gotte* reported that water supply and sanitation facilities were required services to the community and the current water supply scheme helped them to engage in productive activities as a result of saved time. Clean and adequate drinking water that can be drawn from existing supply per day, help them in controlling water borne diseases. Men focus group informants in Dibdab, Ghist and Gudri *gottes* informants explained that villagers health was seriously threatened by water born diseases and inadequate latrine use; where as currently the situation has improved.

In addition, respondents of households asked the benefits they have gained as a result of their improved WSS services. Their responses are summarized in the following table.

Table 23: Frequency and Percentage Distribution on Benefits Gained from Improved Water Supply & Sanitation Services

Benefits gained	**Gotte**								Total
	Response	**Komma**		**Dibdab**		**Gudri**		**Ghist**		
		F	P	F	P	F	P	F	**p**	F
Time Saved	Yes	19	76	18	72	20	80	19	76	76
	No	6	24	7	28	5	20	6	24	24
	Total	25	100	25	100	25	100	25	100	100
Health improved	Yes	23	92	25	100	25	100	21	84	94
	No	2	8	0	-	0	-	4	16	6
	Total	25	100	0	-	-	-	25	100	100
Water for livestock available	Yes	0	-	25	100	25	100	-	-	50
	No	25	100	0	-	0	-	25	25	50
	Total	25	100	0	-	0	-	25	100	100
Water for gardening available	Yes	0	-	25	100	25	100	0	-	50
	No	25	100	0	-	0	-	25	100	50
	Total	25	100	25	-	25	100	25	100	100

As indicated in the above table, the majority of household respondents mentioned that they have got considerable benefits in terms of saving time and improving health (76%

and 94% respectively). In addition, developed spring users of Gudri and Dibdab were also added livestock watering as additional benefits obtained from improved water supply system. Respondents were also requested to indicate their perception of the level of support from organizations in charge of providing water and 69% of them reported the level of support is good; where as the rest replied not satisfactory.

5.7. Structural Factors Exacerbating Inequality between Women and Men Participation in Water Supply and Sanitation Projects

In this section, attempt is made to describe and explain the structural factors (political, economic, and socio-cultural), that have materially secluded women from participation in water supply projects. However, it is not within the scope of this paper to provide an in-depth description of the structural factors that exacerbate inequality between women and men in the study areas. An attempt was made to understand those issues in relation to WSS projects.

5.7.1. Socio-Cultural Factors

As it is known, gender has two parts social and psychological. The social aspect of gender is external, the doing, drama, action and as Simone De Bebvoir noted it is "stylized repetition of acts not a choice nor imposed" (quoted in Biseswar, 2005: 15);where as psychological part of gender is internal, it is being/identity/ i.e., masculinity and femininity. Gender identities (masculinity and femininity) are acquired through socialization. An individual develops gender identity and learn gender norms, then internalize these norms that are specifying gender inequality and gender division of labor. This traditionally prescribed identities perpetuate women's domestication; whereas encourage men's involvement in public activities including water supply and sanitation project.

Culture has many impediments to women's involvement in the management of RWSS projects. Within the family, cultural factors influence the division of labor in water collection work. Girls become involved in this activity at an early stage, depending on the

work load of their mothers. Men do not collect water because their masculine identities do not allow them to do so.

The most prevalent forms of cultural factors that obscure the participation of women in RWSS projects are gender stereotypes. The stereotypes, sayings, and prejudices that undermine women's participation in WSS activities as described by women and men group informants include among others «**ከሴት ከመምከር ደግሶ መክሰር**» «**ሴት ልጅ ና ድመትን ወደ ምድጃ**» (the appropriate place of cat and women is kitchen)«**ሴትና ውሃ ቁልቁል ነው**» (like water falls down women also follow the same direction). On the other hand, there are some few sayings that promote women's participation such as: «**የሴት ምክር ከየሾህ አጥር**» «**የሴት ብርቱ ታሠኛለች አንቱ**» **መላ አነደ ሴት ግርማ እነደሌሊት**» «**ሴት ሰራው ቤት በመጥረቢያ ቢሉት አይፈርስም** (woman's advice is like fence of burble wire) , (strong woman is the source of courage), and (a house constructed by woman ca not be easily destroyed).

The other cultural factor that limits the participation of women in relation to WSS activities is attending public meetings. Asked whether women participate in village meetings or not, one of the women informants from Dibdab said: "I am a wife of a respected person; I do not participate in public meeting." The rest of participants added most of the time divorced and widowed women attend the public meeting than married once, though they do not speak any thing and public meetings are always chaired by men.

Men focus group participants on the same issue from Gudri *gotte* also mentioned women rarely attend public meeting due to lack of confidence and education. Those who attended usually sat at the back or rear place and most of them do not even hear what has been said. Moreover, at public meetings, women usually listen when men talk and they did not express their ideas. Men heads of household represent the family and it was assumed that women were informed and influenced by their husbands.

5.7.2. Local Leadership

Domestication of women and the onerous tasks curtail women's scope for participation in political life. Women are rarely represented in formal as well as informal political structures. For instance, in all areas kebele administrations are chaired by men. Men also

head local social organizations. Elders (*Shimagiles)* are normally represented by men and women rarely accepted by villages even by women themselves. *Shengos* in rural communities who discuss and decide on community affairs are the territory of men. Women are not accepted in *Shengo* activities. As described in section 5.4.1, when the development agents first arrived to particular communities their initial contact is always with men local and religious leaders or *gotte* representatives, then women informed latter on. As explained by 60% of respondents, women were not asked during the preparation of their WSS projects; where as 90% of men were informed. *Mahibers* are one of the traditional institutions where women have little chance to exercise local leadership roles. Women and men have their own *Mahibers*, however, since the majority of *Mahibers* are named after 'saints' the chairpersons are mostly men. Men also predominantly head *Gotte* leaders; and women have a chance to lead their own *Idirs* that are rarely found in rural areas.

5.7.3 Economic Factors

The data obtained from Amhara Region WAO revealed that women in rural communities have limited access to control over major resources (see Annex Three). As a result of this, men were identified the principal cash contributors for water supplies projects. As the finding of the household survey indicated, the majority of households store their water in *gan*. No respondent has reported that barrel as a means of water storage in the home that implies people cannot afford to buy it. This intern forced women to allocate much of their time for water collection. Had it been they had barrel container they would have fetched water after two or three times per week instead of each day.

The daily activity profile of women and men in the study area revealed that women's work burden at household level is higher than men. Food preparation, water fetching, cleaning, washing and spinning took up to nine hours women's day. Women's compulsory activities such as cooking, water fetching, and cleaning take up to seven hours a day. Grinding which is reported to take three hours a day. The productive activities such as, weeding, harvesting and trashing take up to nine hours. In the rainy season the workload of women is quite intensified. It demands them up to nine hours in

the field for weeding. In this case the daily working time reaches 15 hours (see Annex Four). All these time consuming tasks mitigate the participation of women in public activities and confined them at home.

5.8 Enabling Environment for Gender Mainstreaming at the Institutional Level

This section aims to provide the existing enabling environments for integration of gender approach into programs, projects and entire activities of the RWSEP and ORDA/WAE. The section first explains the existing gender mainstreaming strategies; gender budgeting and accountability; guidelines and manuals; and gender sensitive M&E indicators, then goes on to look at how they are synergized and implemented at the grassroots/project level.

Many organizations aim to mainstream gender, but few track how effective they are in doing so with monitoring and evaluation (M&E). RWSEP is one of these few organizations committed to integrate gender perspective in the functioning of its institution and in its project implementation at the grassroots level. Its gender mainstreaming strategy identifies key steps required for gender considerations. These comprises institutional set up; capacity building; planning; gender sensitive water supply construction; setting quota for women artisans; involving women and men not only in WATSAN but also in O&M. However, in this search, no gender mainstreaming policies were found both in WAE and RWSEP cases whereas the strategy documents were formulated.

The gender mainstreaming strategy in RWSEP's current activities focuses on awareness creation and capacity building at the community level. The strategy document gives also emphasis on the incorporation of gender issues in water supply and sanitation project cycles. These documents have revealed that RWSEP has good reputation on gender mainstreaming. The existing RWSEP'S institutional set up illustrates (see Annex Five) its commitment in promoting gender issues and creating awareness among all stakeholders. The following is the brief summary of the institutional set up of RWSEP.

At the region level all RWSEP activities are coordinated by Women's Affairs Office (WAO) through the focal person nominated to the RWSEP regional focal persons committee. At the *wereda* level the RWSEP gender activities are coordinated by the women's desk through its focal person nominated for the *wereda* focal persons committee. At *kebele* level *kebele* gender groups and gender sanitization groups do the supervision of gender related activities. Such institutional arrangement ensures the synergy of gender in all programs and in projects at the grass root level. It also contributes to establish gender-mainstreaming network that ultimately ensure the sustainability of projects.

RWSEP's gender mainstreaming strategy document also revealed that planning process is gender sensitive. For instance, prior to planning process at sub-*kebele* level community development plan are prepared with the involvement of women and men and three days gender sensitization workshops organized, then gender sensitization groups will be formulated out of the trainees in order to integrate women and men in the upcoming planning process. The sub-*kebele* community established sub-*kebele* Gender group, which will promote gender awareness in the sub-*kebele*. The establishment of sub-*kebele* gender groups ensures the sustainability and continuation of gender sensitization and to bring attitudinal change at sub-*kebele*.

As learned from the above institutional arrangement, RWSEP is systematically incorporated gender at all levels and in the entire activities and placed it at the center of gravity. For instance RWSEP requires the representation of at least two women out of five WATSANCO members, otherwise application of financial assistance from the community is not accepted (see Annex Six and Seven). According to the information obtained from the RWSEP official, the gender strategy is formulated by involving all stakeholders that implies the right path was followed. The strategy development process followed appropriate stages (agenda setting, strategy formulation, decision making, strategy implementation and evaluation). Regarding RWSEP's organizational values and principles, gender is given a higher priority. The gender strategy document of RWSEP implemented at all levels with the required level of transparency and accountability.

Review was made during the course of the study on RWSEP's monitoring and evaluation systems. RWSEP promotes participatory monitoring that facilitates the involvement of all stakeholders. Preparation of community plans enables M&E to be undertaken by communities. During the planning process, indicators where developed through qualitative information collected on the basis of analysis of strength, weakness, limitation and opportunities (SWOL). Data gathered in disaggregated manner and collected through qualitative and quantitative research. Both women and men target groups were involved in identification of who monitors, what to monitor and why monitors. The approach of participatory M&E by RWSEP has given a genuine in put in developing gender sensitive indicators to monitor and measure changes. RWSEP has clear, explicit, and feasible and realistically timed gender objectives and these objectives are closely related to indicators.

According to WAE Gender Audit Report (2005), it is only in recent years that gender has begun to be integrated into its work. The document also shows WAE is a committed international organization to mainstreaming gender issues. Though WAE has no gender policy, its gender strategy has been formulated recently through the participation of all actors including internal and external stakeholders. According to the information obtained from gender strategy document, WAE has followed the right path in developing this strategy. Another enabling condition that has created by WAE is its gender mainstreaming guideline for water supply and sanitation projects. ORDA is WAE's partner organization in Amhara Region. It implements RWSS project in Achefer *wereda*. Gender is one of the eight core approaches of WAE in implementing RWSS projects. WAE works to promote the participation of women in WATSANCO up to 40%. It also emphasizes and recognizes the leading role played by women in water, sanitation and hygiene activities.

At the project level ORDA/ WAE staff members have limited understanding of gender issues, concepts and analyses. Gender is often equated with women and the gender relations between women and men are not understood. The discussion held with ORDA/WAE project office indicates that there is no gender sensitive indicator for monitoring and evaluation. The mechanisms used to monitor and evaluate projects have so far been largely gender blind. However, the differential impacts of development

initiatives on women and men can only be identified if monitoring and evaluation mechanisms are sensitive to gender. The existing M&E indicators that are using by Achefer *wereda* ORDA/WAE give emphasis to hardware and technical issues. For instance, M&E on hygiene and sanitation trainings is limited to common topics whiles incorporation of other issues such as menstruation is relegated/ not included. All these M&E indicators could inform the practical needs of women and men, but say very little on their strategic needs. The current M&E indicators are not systematically designed to assess the transformation of gender relations (the participation level of women in community meetings, the number of women committee chairpersonship, and the power relations between women and men WATSANCO) and empowerment of women. Regarding the practice of gender budgeting, the document obtained from Achefer wereda ORDA/WAE revealed that there was no separate budget for gender work.

CHAPTER SIX

CONCLUSIONS & RECOMMENDATIONS

6.1 CONCLUSIONS

This study has tried to describe and explain the role of gender in the provision of rural water supply and sanitation services. The study has found that gender plays an important role in promoting the sustainability of rural water supply and sanitation projects. Experiences of RWSEP and ORDA/WAE revealed that gender has taken as an important component for the promotion of sustainability of rural WSS projects. This has created enabling conditions for the promotion of the participation of women and men from the inception till the implementation and monitoring of their WSS project cycles. Especially, the participation of women during the construction of their water supply and sanitation projects were remarkable; where as it was lower than men during the planning stage.

The study has also identified that there was an inadequate link between the technical and social aspects of WSS services. Women and men had limited sayings on site selection and technology choice for their water supply services. They had also limited involvement during the design work of their WSS projects. As a result of these limitations, stand posts in Gudri and Ghist *gottes* were not convenient to lift water containers, especially when the women fetch water in *madiga*. In addition, public showers in Dibdab and Gudri *gottes* were not convenient for women users.

RWSEP has disseminated the issues of gender in its intervention areas. The project beneficiaries of RWSEP have the overall cognition on women's participation. This is as a result of its institutional arrangement and various community sensitization programs. The community learning programs initiated by WAE also promote why there is a need to promote the participation and partnership of women and men in the management of their WSS projects. Regardless of all such efforts, the existing experiences at the grass-root level show that communities elect women to WATSAN committees mainly to get financial and technical support and to meet the criteria set out by external support agencies. On the basis of the findings of the study, it is possible to conclude that majority of WSS project beneficiaries, especially male community members did not have

appropriate perception on the role of gender in promoting the sustainability of their water supply services and on the relevance of including women in committees. For instance, women's contributions in WATSAN committees were often not recognized by the members of their communities; and only 23% of the surveyed households believed that women WATSAN committee members can perform their activities at an equal level as men.

The members of the communities in the study areas and project staff members both in ORDA/WAE and RWSEP have little confidence on women's WATSANCO members' ability to handle key decision positions such as chairpersonship. Men generally dominated water supply and sanitation management committees in Komma, Ghist, Dibdab, and Gudri *gottes*, but well represented numerically in RWSEP and WAE project intervention areas as compared to other government financed projects. The divisions of work among WATSANCO members have shown that most married female committee members were not willing to keep the public money in their houses due to the fear that their husbands might take it. Husbands did not want their wives to keep public money in their house due to fear of any losses that could happen. In addition, married WATSAN committee members were less encouraged by their husbands to participate in training programs, especially when the venue was outside their villages.

It is generally accepted that gender roles are not static and subject to change, however the traditional division of labor between women and men in the study areas still perpetuates inequality between the two sexes and confines women to the private sphere. Though women help out work in agriculture that is traditionally assigned to men, men do not involve in water fetching.

It is possible to conclude on the basis of the findings of the study that the community members' awareness regarding sanitation has generally improved, the stools of breast fed children were not regarded as polluting and the stools of young children were seen as less polluting than that of adults. This attitude affects mothers' behavior in the disposal of stools.

No water supply scheme can be considered safe if its surrounding is poorly drained. The spring source at Gudri was found to be liable to pollution as it was poorly drained. On the contrary, the spring source at Dibdab *gotte* was well protected assuring good quality of the water.

The task of recovering operation and maintenance cost for water supply in Komma, Dibdab, Gudri and Ghist was found to be very difficult, if not impossible. As stipulated in the country's Water Resource Management Policy, rural communities are expected to cover the operation and maintenance cost of their system. But, in all communities except Komma *gotte, members* use their water for free, putting the sustainability of the schemes at risk.

In sum, RWSEP and ORDA/WAE have formulated gender strategies and committed NGOs to mainstream gender in their activities, but their strategy documents need to show the mechanisms that could influence the social relations of gender or did not attempt to create conditions for structural change. Their approach is by far better than those WAOs in GOs who still follow the WID approach and suffer from institutional incapacity a result of small staff allocation, little budget, limited mandate and few allies in the technical areas. However, the common gender strategy of RWSEP and ORDA/WAE emphasized the provision of women and men with water supply and sanitation services that are near to their homes and that aim at saving their time and energy their by minimizing women's burden in order to enable especially women to better carry out their productive and reproductive responsibilities. Such an approach have an important impact on the lives of individual women but it does little to breakdown existing stereotypes, male-oriented cultural patterns and the structural factors that are perpetuating unbalanced power relations between women and men and secluded women from the participating in management of water supply and sanitation projects.

6.2. RECOMMENDATIONS

Based on the identified gaps by the study the following practical recommendations are forwarded to assist those responsible for gender mainstreaming in rural water supply and sanitation facilities and for those who are striving to increase the sustainability of services.

- Contact women who were established at each water point by RWESEP were found weak and almost stopped their activities; however this does not reflect the other project areas where RWSEP works. The main reason behind for the weak performances of contact women in Komma and Dibdab *gottes* was a missing link between the *Kebele* Program Coordinators and contact women. Contact women were not well supported and encouraged by the *Kebele* Program Coordinators because such duties and responsibilities were not included in the job description of *Kebele* Program Coordinators. Therefore, RWSEP should revise its institutional arrangement at the grass root levels. In addition, refresher training, persistent follow-up, and some kind of rewards should be designed to motivate the contact women who are doing the actual works that are required for the promotion of sanitation and raising the gender awareness of the communities. Praising and rewarding their good efforts during kebele meetings and by giving them some kind of awards could do this.

- In order to protect the contamination of Gudri spring source from human excreta and livestock dug, the beneficiaries in support of the ORDA/WAE project office should fence the source and plant trees. Grey water that comes out of washbasins and water flows from the taps has created swampy and blocked water at the down stream that becomes favorable condition for mosquito breeding. Therefore, the ORDA/WAE together with the WATSANCO of this village should mobilize the community to cultivate the down stream area. For instance, if the ORDA/WAE project office provides the community with seeds and initial capital, the villagers could cultivate it by using their labor.

- Public showers at Gudri and Dibdab *gottes* are not widely used particularly by women, because they embarrassed to use the facility in presence of men. Therefore, the support agencies (RWSEP and WAE) should construct separate shower rooms for women. This can be done by detaching the existing common iron sheet wall and by fencing women's shower room from men. This can be done with in the same compound with out incurring additional cost.

- The sitting of pots in *Gudri gotte* is too short and not convenient to lift the pots with out assistance. That is why most women use *kill* and *jerican* for water fetching. Therefore, the technical personnel should consult women not only men during the design of heights between stand posts and sittings.

- In komma *gotte* the community does not use the cattle trough and washbasin. This is because of two reasons. First, the water yield in the area is not enough to accommodate such demands and second, only one small sized washbasin and cattle trough is not enough to serve for the intended purpose. Therefore the consent of community's should be considered before any kind of physical works.

- Men WATSANCOs in some villages did not have positive attitude towards the women WATSANCO members and some of them accepted women members just for the sake of obeying the instruction given from the support agencies and fulfillment of pre conditions for securing funds. And in all places men owned key decision positions. The power relations between women and men WATSANCO members were not based on equality. Men dominate and manipulated women members. For example, in Dibdab the committee did not report to users regarding the financial matters. Therefore, RWSEP should work more to raise the awareness of men on the significance of including women in WATSANCOs and the *wereda* water desk should audit their financial status.

- The participation of women in WATSANCOs should be encouraged. This can be done fore instance by paying the salary to Gudri's scheme operator and guard person.

- Water users except in Komma *gotte* did not pay for the service. This will seriously affect the sustainability and of O&M costs. Thus, both RWSEP and WAE should work to ensure the economic value of water and to promote user's willingness to pay for the service.

- Both RWSEP and WAE have done a lot in addressing the practical needs of women whilst they overlooked to address the strategic gender needs of women. If RWSEP and WAE continue in addressing the practical needs of women *per se* the existing unbalanced power relations between women and men will be perpetuated and women will remain as disadvantageous groups. It is also impossible to bring women in key decision-making positions in WATSAN COS. Thus, the two NGOs are recommended to strength their focus on GAD approach. This can be achieved by encouraging women WATSANCO member representation in decision making positions and enhancing women member empowerment.

- Project staffs at the *wereda* and project level did not have adequate knowledge on gender issues and the means to mainstream it. They normally equate gender with only women's issue that seriously affects the attitudes of men at the community level. Inadequate approach of gender at the community level could create resistance among men. Therefore, building the gender mainstreaming capacity of project implementers and persistent follow up and evaluation on their achievements is essential. Building the gender mainstreaming capacity of project staffs is not enough. There should be a continuous supervision and monitoring on their gender mainstreaming performances. The WAE and RWSEP head offices should include gender mainstreaming as one of indicators of performance evaluation of their staffs both at program and field level.

- The existing M&E indicators at the ORDA/WAE were not gender sensitive at all. They were only hardware indicators. Attempt should be made by ORDA/WAE to sensitize and synergize its gender strategy at the grass root level. Some gender indicators could be the cash contribution earned from men and women, the type of local material contributions done by women and men, the division of labor among women and men committee members, marital status and educational levels of women and men WATSANCO members, training given to WATSANCO members disaggregated by sex, the attitude and perception of communities towards women and men committee members, and other software indicators.

- Communities alone cannot bear the full responsibility for managing their WSS services with out continuous institutional support. Community management is not meant that, following the installation of a system, outside agencies drive off into the sunset and every one lives happy then after. Therefore, institutional support should be arranged to keep the system working after handing over especially for WSS projects implemented by ORDA/WAE.

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ANNEX- I

SURVEY QUESTIONNAIRE FOR HOUSEHOLD

The purpose of this survey is to generate information on the role of gender in selected *Kebele* of rural water supply services, one of each is you. The information to be obtained through this survey shall be used as an input for the study on the role of gender in the provision of rural water supplies, which is being conducted for the partial fulfillment of MA degree in Gender Studies at AAU. I hope the study will come up with findings that are helpful to better understand and deal with problems particularly related to the participation of women and men in rural water supply projects. Thus, your genuine and honest responses are crucial for the success of the study.

Thank you

Name of Enumerator _____Date _____

Time begin _____

Time End _____

Name of Respondents_____Serial No._____

I. Household Location

1.1Zone

1.2 *Wereda*

(*Achefer*=1, *Yilmana Densa*=2) ---------- ☐

1.3 Name of *Kebele* _____

1.4 Name of Sub *Kebekes*_____

1.5 Name of *Gotte* _____

II. Household Socio-Economic Characteristics

2.1 Total number of household members ---------- ☐

2.2 Number of household female members ---------- ☐

2.3 Number of household male members ---------- ☐

2.4 Number of female children from 5-15 years ---------- ☐

2.5 Number of male children from 5-15 years ---------- ☐

2.6 Number of children under 5 years old ---------- ☐

2.7 Number of household members above the age 65 year----------

2.8 Number of literate members of household ----------

2.9 Number of illiterate members of household ----------

2.10 Number of male literate members of household----------

2.11 Number of female literate members of household----------

III. Water Source in the Area

3.1. What are the water sources in your locality?

3.1.1. River (Yes = 1, No= 2) ----------

3.1.2. Spring unprotected (Yes = 1, No =2) ----------

3.1.3. Spring Protected with public fountains (Yes =1, No =2)----------

3.1.4. Hand dug well (Yes = 1, No =2) ----------

3.1.5. Hand pump (Yes = 1, No = 2) ----------

3. 2. Which is the main source of your potable water?
(Developed spring=1, Hand pump =2, Public Tap=3, undeveloped spring=4)----------

IV – Responsibility of Water Fetching

4.1. Do the adult males normally fetch water for the household?
(Yes=1, No=2)----------

4.2. If No, Why_____

4.3. Do adult females normally fetch water for the household ? (Yes=1, No=2)----------

4.4. Do male children normally fetch water for the household? (Yes=1, No=2)----------

4.5. If No Why_____

4.6. Do female children normally fetch water for the household. (Yes=1, No=2)----------

V. Water Source and Use during Rainy and Dry Seasons

5.1. Which are your primary sources of water during dry season? And what are the 1st two primary reasons for use it?

Water source:

River = 1, unprotected spring = 2, Hand dug well = 3 protected spring with public fountain = 4, , Hand pump = 5, Roof Water=6

Reason for use from particular source:

Short distance =1, No payment, thus I save money =2, Because of the source is reliable= 3, Best quality for the purpose = 4, Adequate quantity available= 5

Purpose reasons for use	**The 1st two primary sources**	**The 1st two primary**
5.1.1. Drinking,	☐☐	☐☐
5.1.2. Cooking	☐☐	☐☐
5.1.3. Clearing utensils	☐☐	☐☐
5.1.4. Washing clothes	☐☐	☐☐
5.1.5. Washing bodies	☐☐	☐☐
5.1.6. Income generating	☐☐	☐☐
5.1.7. During special occasions	☐☐	☐☐
5.1.8. Livestock watering	☐☐	☐☐
5.1.9. Gardening	☐☐	☐☐

5.1.10. Other specify _____

5.2. For what purposes do you use water from the above sources during rainy season and what are the main reasons for use it?

Purpose reasons for use	**The 1st two primary sources**	**The 1st two primary**
5.2.1. Drinking,	☐☐	☐☐
5.2.2. Cooking	☐☐	☐☐
5.2.3. Clearing utensils	☐☐	☐☐
5.2.4. Washing clothes	☐☐	☐☐
5.2.5. Washing bodies	☐☐	☐☐
5.2.6. Income generating	☐☐	☐☐
5.2.7. During special occasion	☐☐	☐☐
5.2.8. Livestock watering	☐☐	☐☐
5.2.9. Gardening	☐☐	☐☐

5.2.10. Other specify _____

VI- Distance Travel for Water Fetching and Queuing Time

6.1. How long does it take you to fetch water from particular sources?

6.1.1. River: Round trip: in minutes ---------- ☐

6.1.2. Protected spring: Round trip: in minutes ---------- ☐

6.1.3 Unprotected spring: Round trip in minutes---------- ☐

6.1.4. Hand pump: Round trip: in minutes ---------- ☐

6.1.5. Other, specify---------- ☐

6.2. Queuing time at water points**:**

6.2.1. During wet season: Minutes ----------

6.2.2. During dry season: Minutes----------

VII- Water Containers and Means of Transportation

7.1. What containers do you use for fetching water?

7.1.1 Jerican: (Yes=1, No=2) ----------

7.1.2 *Ensra* (pot): (Yes=1, No=2)) ----------

7.1.3 Barrel: (Yes=1, No=2) ----------

7.1.4. Kill (yes=1,No=2)----------

7.2. What containers do you use for storing water in your house?

7.2.1. Jercan: ((Yes=1, No=2) ----------

7.2.2. *Ensra*: (Yes=1, No=2) ----------

7.2.3. Barrel: (Yes=1, No=2) ----------

7.2.4. *Gan* (Yes=1,No=2)----------

7.3. How is water transported to your house?

7.3.1. Carried by members of the family (Yes=1, No=2) ----------

7.3.2. Carried by women and girls:(yes=1 ,Mo=2)----------

7.3.3. Brought by water vendor (Yes=1, No=2) ----------

7.3.4. By donkey (Yes=1, No=2) ----------

7.3.5. If other, specify---------- ---------

VIII-Water Tariff

8.1. Do you pay for the water you use? **(**Yes=1 , No =2) ----------

8.2. If "yes", how much do you pay/day/month?---------- ----------

8.3. What is your perception on the present tariff level?

(Cheep =1, Fair =2, Expensive =3) ----------

8.4. How the tariff set? ----------

IX. Consumer satisfaction

9.1. Are you satisfied with the Support given from the organization in charge of providing water?

(yes 1= no=2) ----------

9.2. How much Ensera water you use/day? _____

9.3. How much Jerrican Water you use/ day? _____

9.4. In general how do you rate the service provided by your water system

(Good =1 Fair=2, Bad=3) ----------

9.5. How do you evaluate the amount of water you get from the developed sources?

9.5.1 Amount during rainy season:
(More than enough =1, Enough=2, Not enough=3) ----------

9.5.2 Amount during dry season(Decrease=1, No change=2)----------

9.5.3. Taste: (Good=1, Okay =2 Bad=3)----------

9.5.4. Color: (Clear=1, Brownish=2, Dirty =3) ----------

9.5.5. Temperature (Cool=1, Warm=2, Hot=3) ----------

9.6. Are you satisfied with the number of hours and the time of services? (Very=1, some what =2, No=3,Can not say=4) ----------

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X- Benefit Gained from Improved Water Supply

10.1. What benefits you have gained from the improved water system?

10.1.1. Time saved: (Yes=1, No=2) ----------

10.1.2. Improved health: (Yes=1 , No =2) ----------

10.3. Other specify_____

XI- Women and Men participation during the project cycle

11.1 Do you know how the water systems start? (Yes =1, No =2) ----------

11.2. If yes, please tell _____

11.3. If "No", why? _____

11.4 Did you asked during preparation phase of the project (yes=1, no=2)----------

11.5. If "No", why? _____

11.6. Did you asked during site selection? (Yes=1, No=2)----------

11.7. Did you asked during the selection of technology?(Yes=1, No=2)----------

11.8. Is the design acceptable for you?

11.8.1. Sitting of *Ensra* pot: (yes =1, No =2)----------

11.8.2. Easy to carry with out assistance: (yes =1, No =2) ----------

11.8.3. Proper height: (yes =1, No =2)----------

11.8.4. Is the handle easy to operate? (yes =1, No =2) ----------

11.8.5 is the faucets easy to operate?(yes=1, No=2)----------

11.8.6. Is the water supply system in the right place? : (Yes =1, No =2) ----------

11.8.7. Wash basin slope: (Too much=1, Too little=2, Okay=3) ----------

11.8.8. Stand posts: (Good=1, Poor =2 , Fair=3) ----------

11.8.9. Sitting of Jerican: (yes =1, No=2) ----------

11.9. Did your community participate in the implementation of the water supply project? (Yes =1, No =2, I do not know =3) ----------

11.9.1. If "yes" what was the form of participation?

11.9.1.1 Decision making in site selection :(yes=1 No=2) ----------

11.9.1.2. Labor contribution: (yes=1 ,No=2) ----------

11.9.1.3. Cash contribution: (yes=1 , No=2) ----------

11.9.1.4. Local construction material supply (yes=1 No=2) ----------

11.9.1.5. Other specify _____

11.10. How do you rate women's and men's participation in the forms of participation?

11.10.1. Site selection: (High=1, Medium =2, Low=3) ----------

11.10.2. Decision making in technology choice :
(High=1, Medium =2, Low=3) ----------

11.10.3. Free labor contribution :(High=1, Medium =2, Low=3)---- ----------

11.10.4. Cash contribution : (High=1, Medium =2, Low=3) -------- ----------

XII- On sanitation and hygiene

12.1. Do you have a pit latrine? (Yes=1, No=2) ----------

12.2. If "Yes", do the following members of household use the latrine regularly.

12.2.1. Adult male: (Yes=1, No=2)----------

12.2.2. Adult female: (Yes=1, No=2) ----------

-

12.2.3. Boys : (Yes=1, No=2) ----------

-

12.2.4. Girls(yes=1. No=2) ----------

12.3. Do you regularly wash hands after using latrines? (Yes=1, No=2) ----------

12.4. Do you regularly wash hands of before eating? (Yes=1, No=2) ----------

12.5. How often do you wash your cloths?
(Weekly once=1, Monthly once=2, During occasions=3) ----------

12.6 .Do you bath at the public shower of your system?(yes=1,No=2)----------

12.7. If your answer is 'No', please tell the reason.----------

12.8. How often do you take bath on average?
(Weekly once=1, Monthly once=2, During occasions=3) ---------- ----------

12.9. How do you wash your water containers? (with any water=1,
With clean water=2, With clean water and grawa=3) ----------

12.10. When do you wash your water containers?
(Daily=, Every other day=2, Every week=3, As need arises=4) ----------

12.11. Did you get sanitation and hygiene education?

(Yes=1, No=2)----------

XIII- Structural factors which are affecting women and men equal Participation

13.1. Do women and men attend meeting in your community?

(Yes=1, No=2)----------

13.1.1. If "no", what are the seasons for?_____

13.2. What are the factors that prevent the participation of women in public activities?

13.2.1. Domestic work burden (Yes=1, No=2) ----------

13.2.2. Fear of their husbands (Yes=1, No=2) ----------

13.2.3. Lack of education (Yes=1, No=2) ----------

13.2.4. Cultural (Yes=1, No=2) ----------

13.2.5. Please specify _____

13.2.6. Ignored by agents (Yes=1, No=2) ----------

XIV- On management of the system

14.1. Did you participate in the election of the water committee?
(Yes=1 , No=2) ----------

14.2. Does the water committee periodically report to users about their Performance? (Yes=1, No=2, I don't know=3) ----------

14.3. How do you rate the activities of water committee?
(Good=1, Fair =2, Poor =3, I don't know=3) ----------

14.4. Does the committee have female members?
(Yes=1, No=2 , I do not know=3, I don't know=3) ----------

14.5. How do you see the activities of female and male water committee?

(Equal with men=1, weaken than men=2, I do not know =3)----------

14.6. If the answer to the above question is 2, what do you think the reason----------

XV- Operation and maintenance

15.1. Who operate at the water point?

(Female operator =1, Male operator=3, Both=3) ----------

15.2. Does your water supply system break frequently?

(yes =1, No =2) ----------

15.3. Who undertake the maintenance work?

(Female operator =1, Male operator=2, Both=3,I do not Know=4) ----------

15.4. Does the system have female maintenance worker?

(Yes=1, No =2, I do not know=3) ----------

15.5. Who undertake the major maintenance work?

(Local artisans=1, *Wereda* water desk=2, I do not know=3)----------

-

IN DEPTH INTERVIEW GUIDE WITH KEY INFORMANTS

Date of Interview _____

Name of person _____

Position _____

Address_____

Conversation points during interview/discussion

1. Problems of women, girls and the entire community prior to the existing water supply and sanitation services and related difficulties in the existing services.
2. Specific structural factors (cultural, economic, social and political) that. Perpetuate inequality between women and men in WSS activities.
3. The level of women and men, participation during the project cycle (planning, design, implementation, operation and maintenance).
4. People's attitude towards women and men WATSAN committee members, care takers, sanitation agents, mechanics.
5. The role of women and men WATSAN committee members, division of labor, specific problems of women committee members.
6. The level of assistances from external support agencies.
7. Relevance of gender issues to the sustainability of the system.
8. Ability and willingness to pay for the services.

INTERVIEW GUIDES WITH CONCERNED OFFICIALS OF THE WATER SECTOR AND PROJECT STAFF

Date of Interview _____

Name of Person _____

Position/Title _____

Issues rose during interview/discussion

1. Enabling environments that are promoting the implementation of gender.
2. Current policy strategies to facilitate the incorporation of gender.
3. Recognition on the importance of involving women.
4. Type of gender disaggregated data collected and utilized during the pre-feasibility and feasibility studies.

5. Use of gender sensitive M& E indicators.
6. Level of gender mainstreaming
    - Gender Budgeting
    - Accountability
    - Guidelines, laws manual, etc
    - Women empowerment
    - Strategy
    - Attitudes and perception towards gender
7. Institutional support to women and men water committee.
8. Integration of water supply services with sanitation and hygienic promotion.
9. Level and form of women's participation and involvement in the project cycle.
10. Structural factors obscure women's involvement and participation.
11. The role of gender for sustainable water supply provision.
12. The contribution of women committee members
13 Structural factors that affect women representation in decision making position in water committee.
14. Level of women and men contribution for O & M.
15. Relationship of water committee with community and agency.
16. Level of women's participation in public activities.
17. The role of women and men in the project to make it more sustainable.
18. Procedures of water committee selection.
19. The benefits gained from the project for women and men
20. How tariff set? Do tariffs reflect social equity?
21. Level of use of latrines by men and women, the sanitary habits of the community.

FGD DISCUSSION GUIDE WITH WOMEN and MEN WATER COMMITTEE MEMBERS

Date of Interview _____

Wereda _____ Village _____

Type of water source_____ Type of Scheme_____

1. Back ground information of FGD participants

Name of Respondent _____

Martial Status _____

Educational level _____

Position in the committee ____ _____

Number of water committee desegregated by sex

2. Establishment and function of the committee

How were you elected

What are the functions of the committee? For whom it is accountable?

Does the committee have bi-law?

Who built the water supply system?

3. Discussion points

The number of households who use the water supply system

Participation of women during the RWS project cycles

The rate of women participation during planning, design, construction, implementation of the water supply project cycles

Ways of participation

Fees for the water supply service by users, its adequacy for O&M costs, willingness of men and women for cash contribution.

Management of income and expenses, regular meeting of committee, convenience for meeting time for female members, place to keep the collected money.

women &men members willingness to participate in the committee and impediment to women committee members

The role of women and men water committee members.

Training given to the committee members.

Trainers/institution

place of training

participants /trainees

Topic of Training

3.9.5 Women members' participation in the training & impediments for their participati

Key decision making position owned among the committee members

The community's and agency attitude towards women committee members both in hand pumps and developed spring schemes.

The community's and agency's attitude towards women committee members both in hand pumps and developed spring schemes?

The committee's dedication in managing the O& M of the system.

The general assembly (meeting) of committee with the beneficiary community who attends community meetings from the household? How was the participation of women and men? Who is willing for cash contribution?

Number of women and men care takers , artisans and technicians

The employment status women and men O&M workers

The performance of women and men O&M workers

Training given to women and men O&M workers and trainers

The level of payment for women and men O&M workers

Provision of tools and spares for women and men O&M workers

Support given to committee from agencies

Incentives arrangement for committee members and types of incentives.

Present of guidelines and norms to regulate the behavior of water users in the community.

The level of user's payment, addressing social tariffs and place to keep the money.

Responsibility of committee in integrating water supply with sanitation activities.

Responsibility of household sanitation and hygiene

Prevalence of diseases related to poor hygiene and sanitary practice and unsafe water in the area.

Benefits obtained as a result of the water supply project

The particular issues that affect the activities of women committee members

Relevance of including women in the water committee

The major problems encountered for the sustainable management of your scheme

The specific structural factors that perpetuate inequalities between women and men in the community.

CHECKLISTS FOR DISCUSSION WITH RELEVANT GOVERNMENT BODIES

Date of Interview _____

Wereda _____Village/*kebele* _____

Organization _____ position_____

Issues rose during interview/discussion

1. The situation of women and men in the area.

2. Specific structural factors that perpetuate inequalities between women and men committee members.

3. How do you comment women's involvement during water project development? (from planning to M&E)

4. Do you think women and men have equal representation in the water committee? If no what do you think the problem?

5. What are the major problems of women in your community?

6. Do the village women and men use latrines? If no, why?

7. The participation of women and men in public spheres.

CHECKLISTS FOR THE DISCUSSION WITH WOMEN AND MEN OPERATION & MAINTENANCE WORKERS

Date of Interview _____

Wereda _____ village _____

Name of Interviewer _____

Source of Water_____Type of Scheme_____

Issues to be raised during interview/discussions

1. What is your responsibility?
2. How do you get the opportunity to be O& M worker?
3. Had you been trained? If "yes" where? By whom? And what was the training?
4. Do you think the training is enough?
5. How many women and men workers are there? Are they paid?
6. How do you evaluate the structural design, pot stand, height, easy to maintain the water system?
7. How do you evaluate the role of women and men committee members?
8. How do you evaluate the participation and involvement of women in technology selection, site selection, and in general public activities?
9. What contributions are made by women and men in cash contribution, sanitation and hygiene promotion?
10. Who usually informs you when there is a system failure?
11. What are you major problems for the O & M?
12. What are the usual causes of system failure?
13. How is the design and structure of water system?
    It is convenient for pregnant/weak women, children & elderly?
14. Where do you get spare parts?
15. Who quickly maintain the scheme? male or female? What are the reasons for?
16. How is the breakdown level of schemes that are maintained by women and men?
17. Do women maintenance workers effective like men? If yes hoe/if no Why?
18. Benefit gained from the employment of O&M
19. Operators of water point and their responsibility

CHECKLISTS FOR WOMEN AND MEN FOCUS GROUP DISCUSSION

Date of Interview _____Village/*kebele* _____

Issues to be raised during discussions

1. Who establish the water system?
2. From where did you get water supply before the establishment of your improved system and what were women's predicament?
3. When was your improved water supply system established?
4. How was the participation and involvement of women and men during the project cycle (planning, design, implementation, monitoring and evaluation)?
5. Is the current water supply adequate? If "no" what are the problem on women and men?
6. Do you have to pay for water? How much? Who pays? Women or men?
7. Can poor women and men in the neighborhood pay for water? If not, what alternative do they have?
8. Who is responsible for sanitation services? Provision quality, maintenances?
9. Do the households use latrine? Women? Men?
8. Who control water use at the household?
9. Do you think, women and men have equal relationship? If no what Factors are perpetuating the inequalities?
10. How do you evaluate the participation and role of women and men water committee members? Who is more active? What are the reasons?
11. Do you know women care takers hand pump installer? maintenance workers and operators? How do you evaluate their role from men?
12. What are the particular structural factors that obscure the involvement and participation of women in public activities?

Observation Check List

Wereda _____Village (*kebele* _____

1. Water Supply systems

1.1 Type of water source

1.2 Type of water point

1.3 Fencing and protection at source, reservoirs, water points, etc

1.4 Drainage facilities

1.5 Quantity of water supply at water points adequacy, queues, etc

1.6 Existence of women operator, care takers, etc

1.7 Who fetches /collects water, women, boys, girls, men?

1.8 Whether users are paying water changes or not

1.9 Containers used for collecting water, their size

1.10. Means of transportation

1.11 Distance of water points from villages

1.12 Conveniences of water points (the design of the structure, standpoints, design flows, technology type.

1.13 Livestock water use from same source.

2. Sanitation and hygiene conditions

2.1 The extent of the existence of latrine facilities in the village/ community.

2.2 Type of latrines (private or communal)

2.3Condition of latrines and surrounding (clear/dirty, smell, existence and conditions of wall and roofs, etc,)

2.4 Separate latrines/seats for women and men

2.5 Whether there is a habit of hand washing before eating and after defecation.

2.6 Observable hygiene conditions washed faces, clear cloths.

2.7 Observable diseases, skin diseases, eye disease etc

2.8 Waste disposal facilities, pits, sewerage system

3. Households

3.1 Water handling at home

- Size of containers and cleanliness
- Whether water is obtained into the water
- Whether containers, cups, utensils and similar facilities are kept clean/dirty
- Family size

3.2 Sanitation and hygiene

- Existence and condition of latrine
- Cleanliness of the house, the premise and surrounding

- Observable diseases

- Waste disposal facilities

4. Unobtrusive observation

- Water committee verbal, book-keeping
- Allocated budget for gender activities
- Training materials
- Reports, formatting
- Gender monitoring and evaluation indicators
- Polices, strategies, plan of actions, guidelines, manuals
- Gender roles and relations
- Women's domestic burden
- Division of labor
- Access to and control over sources
- Idea expression
- Interaction levels.

DECLARATION

I, the undersigned, declare that this is my original work and has not been presented for a degree in any other university, and that all sources of materials used for the thesis have been dully acknowledged.

_____

Berhanu Mamao

February, 2007

The thesis has been submitted for examination with my approval as a University Advisor

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Yearswork Admassie(Ph.D)

February, 2007