JIMMA UNIVERSITY

JIMMA INSTITUTE OF TECHNOLOGY

SCHOOL OF GRADUATE STUDIES

FACULTY OF CIVIL AND ENVIRONMENTAL ENGINEERING

CONSTRUCTION ENGINEERING AND MANAGEMENT CHAIR

ASSESSIMENT OF FINANCIAL AND LABOUR COMMUNITY PARTICIPATION DURING CONSTRUCTION OF WATER SUPPLY PROJECTS:

A CASE OF SELECTED WEREDAS OF JIMMA ZONE

A Thesis submitted to School of Graduate Studies, Jimma University, Jimma Institute of Technology, Faculty of Civil and Environmental Engineering in Partial Fulfillment of the Requirements for the Degree Master of Science in Construction Engineering and Management

By

Tamirat Tefera Tadesse

November; 2022

Jimma, Ethiopia

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Advisor :	Dr. Lucy Feleke (Ph.D)	_____
	Name	Signature
Co – Advisor:	Mr. Fitih Tamirat (MSC)	_____
	Name	Signature
Examiner:	Ms Esrael Kifle (MSC)	_____
	Name	Signature

November; 2022

Jimma, Ethiopia

DECLARATION

I declare that this research entitled "Assessment of Financial and Labor Community Participation during Construction of Water Supply Projects: A Case of Jimma Zone" is my original work and has not been submitted as a requirement for the award of any degree in Jimma University or elsewhere.

Tamirat Tefera Tadesse	_____	_____
Name	Signature	Date

As research Adviser, I hereby certify that, I have read and evaluated this thesis paper prepared under my guidance by Tamirat Tefera Tadesse entitled, "ASSESSIMENT OF FINANCIAL AND LABOUR COMMUNITY PARTICIPATION DURING CONSTRUCTION OF WATER SUPPLY PROJECTS: A CASE OF SELECTED WEREDAS OF JIMMA ZONE" and recommend and would be accepted as a fulfilling requirement for the Degree Master of Science in Construction Engineering and Management.

Advisor:	Dr. Lucy Feleke (Ph.D)	_____	_____
	Name	Signature	Date
Co - Advisor:	Mr. Fitih Tamirat (MSc)	_____	_____
	Name	Signature	Date
Examiner:	Ms. Esrael Kifle (MSc)	_____	_____
	Name	Signature	Date

Abstract

Community Participation during construction of water supply project is common practice in all corner of the world. The community can be participated in varies forms including labor for physical works and financial contribution. Absence of financial and labor community participation in the important stages of water supply project construction has direct impact on cost and time performance of the project. Jimma Zone is witnessing widespread causes of problems, which affects the financial and labor community participation during water supply project construction. The aim of this paper is to assess the impacts of causes of the problems on financial and labor community's participation performance during *Construction of Water Supply Projects in four selected weredas of Jimma zone and propose some suggestions in curbing down these adverse impacts. A total of 64, questionnaires were distributed to the main parties those directly or indirectly participated as a client, contractors and owners of the project also discussion were conducted with 122 focus groups of water committee, Local Leaders and different governmental workers. The problems in financial and labor community participation are most of the communities financially did not contribute and even if they tried to participating in labor for pipe trench excavation, they did not perform as per the standard depth & width. These results for shortage of finance to pay the contactor's payment and the project's activities did not complete as per the time schedule and greatly affect the project's cost and time performance with regard to the contract agreement. A absence of Community mobilization & knowledge gap on the government's policy regarding community participation , not getting on time information, not training in all aspects of community participation, lack of professionals' follow-up & support during the community's labor works were the main causes for the problems. It is recommended to enhance the knowledge and awareness of community related to financial and labor participation, OWEB shall work with NGOs & institutions to provide trainings to the local leaders and communities, the Zonal & Wereda water offices and local authorities should be effectively mobilize, giving on time information about the projects and the government's policy regarding community participation are important . The results of this study can help decision makers to identify impacts of community's financial and labor participation on cost and time performance of the project, and make plan to solve the problems.*

Key Words: Community, financial and labor Participation, Water Supply Project

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ACRONYMS

AfDB	African Development Bank
CSA	Central Statistics Agency
CP	Community Participation
CMP	Community Managed Projects
Co-WASH	Community-Led Accelerated Water, Sanitation & Hygiene
GDP	Gross Domestic Development
GoF	Government of Finland
GoE	Government of Ethiopia
JZWEO	Jimma Zone Water and Energy Office
MoWE	Ministry of Water and Energy
NGO	Non-Governmental Organization
OWEB	Oromia Water and Energy Bureau
RPS	Rural Piped System
SSD	Support for Sustainable Development
TASAF	Tanzanian Social Action Fund
UNICEF	United Nation International Children's Emergency Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation & Hygiene
WASH-Co	Water, Sanitation & Hygiene Committee
WB	World Bank
WHO	World Health Organization

CHAPTER ONE

1. INTRODUCTION

1.1. Background

Water is fundamental for life and health. The human right to water is essential for leading a healthy life in human dignity. It is a pre-requisite to the realization of all other human rights (WHO, 2007).

Construction of Water Supply projects for the provision of clean water to needy communities is an essential activity, which is having one of the major factors that greatly contribute to the socio-economic transformation of a population by improving health thereby increasing the productivity of the society. Realizing the critical importance of supplying potable water, national and regional governments, local and international NGOs invest millions of capital every year in developing countries to tackle the problem through the implementation of water supply (Prokopy, 2002).

However, WHO and UNICEF (2017) reported that, some 3 in 10 people worldwide, or 2.1 billion, lack access to safe water. Africa, especially sub-Saharan Africa is the most affected region than other regions of the world (Meniga, 2019).

Ethiopia is one of the nations in the world that has the least coverage of potable water supply. Hence, in an attempt to the government's commitment to increasing the overall coverage of the country's potable water supply thereby meeting the Sustainable Development Goals. Ethiopia reaches, water supply coverage for 2018 at the national level as per GTP-II standard is 75% for rural, 64% for urban and 73% for total. Regarding rural water supply schemes' non-functionality rate, from the total inventoried 155,482 rural water supply schemes 29,204 (19%) was not functional at the time of inventory for various reasons. Of these total non-functional schemes, 19% for on spot schemes while non-functionality for RPS sources is 13.8 % (FDROE, 2020).

In Oromia National Regional State, the last five-year performance report starting from 2016 to 2020 indicates that, the 54,777 water supply projects were constructed. And by which the water supply coverage of the region reached 2020 from the total rural population of 75.30 %, Urban population 67.50 % and the total water coverage of the region reaches 74.15 %, this report indicates that a large number of populations of the region still in the problem of access to the potable water supply. And also the non-functional rate or the water supply projects have not given function due to different reasons of the region is 6.52 % (OWEB, 2021)

In the case of Jimma Zone reports of the water office, indicate that, from the total population of the zone 3,800,135 about 80% of its access to safe water. In addition, from total population of rural areas of 3,189,867 only 82.78% have access to safe water, and from the population living in urban area of 547,261 only 65.10% have access to safe water. However, among Projects constructed in the zone, which are about 5% of the total projects are currently non-functional due to different reasons. Ten-year strategic plan prepared by the Zonal water office indicated that in the year 2021-2030 the total forecasted population estimated as 4,961,657 from which the zone planned to reach to water supply coverage of 94.63% (JZWEO, 2021).

The government and other non-governmental organizations have been implementing different water supply schemes but still they are unable to achieve their desirable goals due to different reasons. Moreover, Construction of water supply project has needed high investment cost and after completion it is required a high-level integrated management system. Therefore, government and other donors do not achieve it alone.

In order to solve the water supply problems still there requests a long way to go to construct a large-scale water supply projects. However, many projects in Jimma Zone that have completed and under construction by the Government and various aid agencies so far are in trouble with various problems, especially luck of full involvement and less attention of the communities. Although, many projects often built, they will not be effective without involvement and ownership of the communities.

Many scholars like Harvey and Reed have made many researches on this issue and confirmed the truth on their writings. “Constructing water supply projects alone would not eliminate all problems, especially in rural areas, Functionality and utilization by intended beneficiaries are important characteristics to be considered and integrated in order to achieve maximum benefits” (Reed, 2006).

Hence, integration between Users and project suppliers in decisions and contributions in all aspects as well as management in all phases of water supply project constructions are important as a whole.

1.2. Statement of Problem

Poor water supply and sanitation services continue to be a critical problem in rural areas despite the considerable effort to improve and expand its access. In addition, many evidences indicate that the centrally managed projects are difficult to implement. If the users have excluded from its

involvement, the project construction will not be effective. Thus, somewhat the lack of the financial resources and absence of physical infrastructure that needed to support development of new project systems have addressed through community involvement. According to WASH report indicates that, "Community managed water schemes perform function reasonably well and to be sustainable, although such schemes are obviously difficult to standardize for all communities; they have numerous advantages over other approaches" (Mwakila William, 2008). Ethiopian Ministry of water and energy, reported that, neither the central government nor local authorities had been successful in improving water availability as required, especially in rural areas. One of the reasons why rural water did not improve was that communities were not involved in the situations needed during the implementation of water supply projects. Community members were not accountable as required and they believed that the water projects belonged to the government and donors (MoWE, 2021).

In Sokorru, Kersa, Seka-chokorsa and Gomma weredas of Jimma Zone have been experiencing poor community participation during water supply projects construction in terms of financial and labor contributions (JZWEO, 2021). Poor participation in terms of finance and labor by the community has resulted delay during in execution of water supply projects construction, creates the shortage of project's investment budget and unable to pay timely the contractor's payment as per the intended contract agreement.

These have been also results for dissatisfaction of contractors in timely effects the payments and public criticisms on poor performance of projects completion time and particularly in provision of services. Due to these facts, the study were intended to assess the level of community participation, the problems encountered in financial and labor community participation, the causes of the problems encountered and the impacts of the problems on cost and time performance during construction of water supply projects in four Weredas of Jimma Zone (JZWEO, 2021).

1.3. Research Question

1. What are the practices of financial and labor community participation during construction of medium scale water supply projects in selected weredas of Jimma Zone?
2. What are problems encountered in financial and labor community participation, during construction of medium scale water supply projects in selected weredas of Jimma Zone?

3. What are causes of problems encountered in financial and labor community participation during construction of medium scale water supply projects in selected weredas of Jimma Zone?
4. What are impacts of the causes of problems on financial and labor community participation during medium scale water supply projects construction in selected weredas of Jimma Zone?

1.4. Objectives

1.4.1. General Objective

The main objective of this study was to assess Financial and Labor Community participation during Construction of Water Supply Projects in selected Weredas of Jimma Zone.

1.4.2. Specific Objectives

1. To assess the practices of financial and labor community participation during construction of medium scale water supply projects in selected weredas of Jimma Zone.
2. To identify problems in financial and labor community participation during construction of medium scale water supply projects in selected weredas of Jimma Zone.
3. To identify the causes of problems encountered in financial and labor community participation during medium scale water supply projects construction in selected weredas of Jimma Zone.
4. To assess the impacts of the causes of problems on financial and labor community participation during construction of medium scale water supply projects in selected weredas of Jimma Zone.

1.5. Scope of the Study

The Scope of this thesis research was to assess the problems, causes of problems and the impacts of the causes on financial and labor community participation during construction of medium scale water supply projects in purposively selected four weredas of Jimma Zone. The Weredas were Gomma, Kersa, Seka-Chokorsa and Sokorru. The research was focused on medium scale projects, which are ongoing or provisionally handed over between the year 2015 to 2022.

1.6. Significant of the Research

Water Supply Project construction is one of the leading and very important social service projects in day-to-day human life. As a result, in Ethiopia, the water supply projects have taken as a large governmental agenda, and it is working widely by allocating huge budgets and

coordinating with various programs of donors. In Jimma Zone also at different Woreda levels, many water supply projects have constructed with financial support from the government, different donors, and communities' participation. According to different researches, the need for donors and including the government itself indicates the participation of communities is very essential and more interested.

Most development projects, donors identify Community Participation as one of the prerequisites for the improved performance of the water sector. Many projects started by involving community members in trench excavation and system maintenance. Sustainable water supply and sanitation could not achieve without the participation of the community.

As a result, the findings of this study may be valuable in providing information to the government and other developments' partners how the causes of the problems have affected the financial and labor community participation during construction of medium scale water supply projects. In addition, maybe help them in formulating a system to create problem solving for community participation during the execution of projects construction. It also future researchers and academicians can be used the findings of the study as useful materials for other related research references.

1.7. Limitation of the Study

The study was focused on assessing the problems, causes and impacts of the causes on the performance of financial and labor community participation during construction of a medium scale water supply project. Limited in purposely selected four weredas of the Jimma Zone; Seka-Chokorsa, Kersa, Sokorru and Gomma and focused on projects only medium scale, those constructed from 2015 to 2022.

However, the impacts on financial and labor community participation during the construction may not be such causes of problems only. In addition, others factors may affect the performance of financial and labor community participation during water supply projects construction, those not included in this study.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Community

A community defined as a group of people with common needs. According to the UNDP, projects document definition “Community is a group of people living in a geographically defined area or a group that interacts because of common social, economic, or political interests (Doreen.J.Kushoka, 2020). And also defined as more powerful and more than groups Community does contain interest groups and they are made up of individuals, but they are more than interest groups and are more than the sum up of the individuals who make them up. The individual men, women, and children, some rich, some poor, do not just co-exist in a shared space. They interact in many different ways, some visible, some invisible. The existence of community is not something that can be demonstrated (Schouten, Patrick & Leonie Postma,2003).

2.2. Users

On the other hand, according to the definition in the water policy document of the Ministry of Water and Energy, users are directly or indirectly related to the water supply projects beneficiaries, and defined as it is the most fundamental and essential stakeholders for the implementation of water supply projects. Their active participation in projects implementing and monitoring is very crucial for the sustainability of the scheme after commissioning and handing over (MoWE, 2001).

2.3. Defining Community Participation

As per different the roots of Community Participation approaches, perspectives and concepts have shown at different stage of social development, it can be traced to different cultures across the globe. For this reason, CP has many definitions. The Oxford English dictionary defines CP as “having a share in as in benefits or profits” or “taking part in”. This indicates that the rights of people to get involved in any activity that essential for their lives. “CP is an important principle in rights-based community organizing; it helps the citizens of a community to identify matters important to them, to collectively address common challenges, to share in making decisions” (Adnan Al Mhamied, 2016).

From the above two definitions Community Participation can be taken as a vehicle for influencing decisions that affect people's lives. In addition, it has taken as a ways for transferring power to the powerless. In addition to these definitions, Hussein in his research describes "CP as a process by which individuals take action in responding to public concerns. These may include people voicing their opinions about decisions they may disagree with and living with the consequences of their choices" (Hussein Abdi Ali, 2013). Bridgen define that "participation simply entails community involvement in and influence over the local decision making process". Bridgen's theoretical context, CP has seen as an instrumental process in which communities influence and become genuine partners in development initiatives or resource mobilization. The World Bank Learning Group on Participatory Development (1995) defined participation as a process through which stakeholder's influence and share control over development initiative, and the decisions and resources which affect them (SileshiLeta, 2017).

The United Nations Economic and Social Council Resolution (1929), defined as it has applied practically in a democratic manner. CP as a process that entailed voluntary or democratic involvement of the citizenry in; (1) contributing to the development effort, (2) sharing equally the benefits accrued from the process, and (3) decision-making in respect of setting goals, formulating policies and planning and implementing economic and social development.

According to World Bank Definition, "Community participation has identified as an approach to achieve benefits for local people and it enable them to manage social, economic, and environmental and other required services to promote development activities to be sustained (World Bank, 2003). In addition, Community participation defines in WHO Community Participation Guide Line, as community must involve in the development projects "Community participation refers to the involvement of the people in a community in development projects (KALAM, 2021).

According to Beshah in its titles of Public Works Management & Policy, the development of Community participation concepts has affected the progressive performance in water sector. The start of community involvement in water and sanitation development dates back to the 1960s and 1970s, when community involvement started influencing the sector to make effective interventions (Besha M., 2015). Due to the inefficiency of the top-down approach, community development and sustainability are becoming highly important. Therefore, involving the users at all stages of a project has considered mandatory. Having the users participate in the selection of appropriate technology, the site and level of service, and encouraging them to pay

part of the investment, operation and maintenance costs are very crucial in winning over the hearts of the community.

In the past water supply implementation, operation and maintenance have considered the responsibility of governments in developing countries and users were expecting to have water service free (Besha M., 2015). Such thinking still exists in the rural parts of the developing economies. In this respect, a lot needs to be done to make those rural communities that suffer most from problems in water supply and sanitation realize their key role in the sector. Thus, the focus has shifted more toward community management in the last decades.

There is a difference between theoretically assumed possible and what actually takes place in a real situation. Many countries of the Third World have attempted the application of a participatory approach in the Construction of water supply projects for their rural communities. The success with this strategy has varied from country to country or even from region to region within the same country .This process of participation in water supply project Construction, which was largely dependent upon the willingness and especially the ability of Native population to contribute the costs of water projects.

Tanzanian's Experience of Community Participation in Rural Water Supply indicates that; "In Tanzania Involvement of local communities was no longer to be limited to financial contributions for construction and operation of water Schemes. Local communities could participate in the development of water schemes by contributing ideas as well as their physical labor. This form of participation, especially of labor was encouraged by the leadership mainly because it was more capable of causing tremendous savings in financial resources, which would be otherwise have been used to pay laborers. Furthermore, it has believed that this contribution of labor created a sense of ownership and responsibility and strengthened a spirit of self-reliance in the minds of the local people who participated in the construction of the water schemes. In practice, this form of local involvement was especially in performing jobs of either digging trenches (or water pipes and filling them up after the pipes had been laid or collecting building materials such as sand and stones" (Mark R. Munvahuzi, 1983).

An experience indicates that, the Community Involvement in rural water supply project construction is common practice in all corner of the world, but it is different in its application and interest of participation. In case of Jimma Zone, even though, the involvement of community participation in trench excavation for pipe lying, backfilling and participation in labor for

preparing access road at construction site has officially known, but a lot of serious problems are obviously occurs during construction.

According to conducted Research Paper presented by WILLIAM MWAKILA on the title of an assessment of Community Participation in Water Supply and Sanitation Projects: In Case of two village, Yombo Dovya and Barabara Mwinyi in Tanzania "Developing a sustainable water projects required adequate financial resources. Donor and government dependency as the sole provider for most water services has led to poor sustainability of water projects. Although the Government and donors like WB can provide support whenever possible, the communities are encouraged to demonstrate efforts in sustaining their water schemes" (Mwakila William, 2008).

In this context, the community was required to contribute a portion of capital to water Project Construction. Water project coordinators revealed that community members contributed both in cash and in labor. Cash contributions were required for the initial opening of bank accounts, as well as a way of demonstrating the community's commitment has done in both village water projects. Community member's involvement in all stages of water project implementation and use of local knowledge in implementation of water projects have taken into considerations, as this would make the projects more sustainable. Mobilization should start at the initial stage of project implementation. Community members should well brief at the beginning of water project about cost sharing The Hague, the Netherlands December 2008). However, in the case of Jimma Zone still not a clear platform for briefing and mobilizing work to the users' communities in water supply involvement, thus, there are many problems in participation in labor and cost sharing of matching funds for the project construction.

In addition to this, George Stanley Kinyata and Nafiu Lukman Abiodun in their International Journal of Research in Sociology and Anthropology mentioned that "The cornerstone of community-based development initiatives is the active involvement of members of a defined community at least some aspects of project design and implementation"(IJRSA, 2020). Jimma Zone compared with this idea, it has clearly shown problems in communities, and they are rare in their participation during the design and implementation stage, which needs an assessment to identify the problems.

Currently, the using policy and strategies of the water sector in Ethiopia came into force in 2000, they boldly state, "All funding for the water sector from any source should be utilized based on national objectives, policy and strategy. It developed to take sufficient the issues "being

participatory, enhancing the ownership feeling, enhancing the role of women during planning, implementation, and decision making, self-financing of programs and projects at the local level with special provisions for subsidies. To Seeking cost recovery, transparent financial management, public accountability and financial sustainability of water supply systems and promoting objective-oriented training with special emphasis on community participation, administration and finance, operation & maintenance, etc"(MoWR, 2001,a&b).

Even if the policy and strategy of the country forced the water sectors and users, the situations in some projects implementation in Jimma zone have not fundamentally based on the national objectives. Especially shown that it has not more focused on, initiation on participatory and Enhancing the sense of ownership feeling, Enhancing the role of women during planning, implementation, and decision making, self-financing on projects at the local level, on cost recovery, on transparent financial management, public accountability and financial sustainability of water supply systems. So, to indicate the problems in the zone, it is needed an assessment of the actual situations.

According to the case study made by Water Aid in Nepal in 2005, on the capital Cost Recovery approach, identifies that "In Small Town Water Supply Project, 50% of the investment cost is recovered from the users. Water supply project implementation in urban poor communities in Butwal Municipality based on 80% capital cost contribution by the communities". In the 20% approach, the beneficiary will pay the upfront capital cost on a payment basis. Therefore, this approach helps the community to immediately gain access to water supply services" (Water Aid, 2005). However, in case of Jimma Zone, the communities have not seen when it used these chances as opportunities, so it is very essential to assess the problems behind the issues.

In Tigray Region of Ethiopia, the primary stakeholders do not participate in the important stages of the water supply schemes like identifying, planning and execution of the schemes, which leads to poor quality, poor sense of ownership, and ineffective monitoring mechanism. To be successful and sustainable in any water supply scheme the primary stakeholders should take part in every phase of the project. Therefore, women and youth participation in rural water supply schemes are very essential (Meniga, 2019. This conclusion has taken as a very power full clue to continue the research in the case of the Jimma zone.

The practices of the various actors in the Co-WASH Program in co-producing drinking water in the Amhara region start with how much the community contributes to the total cash, labor, and

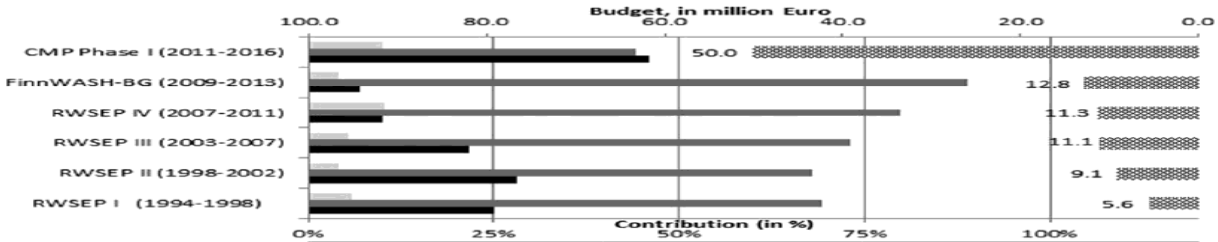
local materials required for the construction of water points for a community-managed water supply and what percentage of the necessary regular contributions does it make during the post-construction phase. Community contribution' corresponds to the principle of cost sharing within the wider development discourse (Besha M., 2015).

Another practice related to community contributions prevails whereby communities are selected based on the number of their contributions; the greater the contribution of labor, local materials, and cash deposits, the higher the probability that a community will obtain a water point. This can be observes as a conclusion of the demand-driven approach, where communities would need to compete in economic and participatory terms to co-produce drinking water supply. In most cases, the communities deposit cash at a local microfinance institution before the construction of the water point (Annala Linda, 2021).

Co-producing drinking water in rural Ethiopia: management is the name of community management, But In the case of the Jimma zone, a serious problem has shown in the same activities of water supply project construction, so it needs an assessment on the issue.

In 1994, Ethiopia introduced a community-focused multi-sector project in the Amhara regional state in collaboration with the government of Finland (GoF). The project has grown and changed its implementation approach toward a more decentralized and community-led implementation called the community-managed project (CMP).The term participatory has usually applied to the user community, but all other stakeholders also need to take part (Besha M., 2015).

In the case of the Ethiopian government, the CP approach has achieved a lot. The user communities' contribution in cash, labor, and construction materials is substantial.



	RWSEP I (1994-1998)	RWSEP II (1998-2002)	RWSEP III (2008-2007)	RWSEP IV (2007-2011)	FinnWASH -BG (2009-2013)	CMP Phase I (2011-2016)
Community	6%	4%	5%	10%	4%	10%
GOF	69%	68%	73%	80%	89%	44%
GOE	25%	28%	22%	10%	7%	46%
Budget	5.6	9.1	11.1	11.3	12.8	50.0

Figure 1 Community sharing experience

Source: Amhara regional state in collaboration with the government of Finland (GoF)

Figure 1: indicates how the GoE is working with the development of the CP approach to have a significant positive impact on rural community life through improved water supply and sanitation. This can be views as one of the major achievements of the GoF's support for Ethiopia. Involving user communities at each stage of projects is at the heart of Community Managed Projects (CMP). CMP approach Providing local construction materials and labor during construction and control of the construction process is the responsibility of the user community. Community representatives manage the project implementation by contracting works to local workers and delegating tasks to the Woreda WASH team when things are beyond the capacity of the committee.

Therefore, the CMP approach includes no handover process since the community owns the project from the very beginning. All these preconditions have meant to enable the users to manage their system after implementation (Besha M., 2015).

The involvement of Communities during Construction stage has important impacts on the future uses of the projects. The study conducted on the topic of "the Scope for Community Participation" explained that, in the construction phase of a Community Water supply project, the community could contribute to physical construction works in different ways. This varies from the provision of unskilled voluntary labor to carrying out all construction work by community members on a paid contract basis. Depending on the situation and community organization, different levels of community participation can be attaining during the construction of a water scheme. When communities are to be involved in the construction process, they will feel responsible for maintaining the facilities afterwards. Then the community has been directly engaged in the construction works, which will give them a better understanding of the water system" (HABITAT, 1989).In addition to explain the benefits of communities' involvement, the study by HABITAT also provides the best examples of community involvement in different projects development. In Colombo municipal area in Sri Lanka in 1986, a community contract signed, the contract was between a government agency and the community to carry out for the construction of public facilities in their area. From the first project, 60 community contracts made up to June 1988. They included footpaths, drains, toilets, water-collection points and community centers. Eighty per cent of the contracts completed on time, only five took longer than the scheduled time and just one exceeded projected costs. This represents a marked improvement compared with experience with conventional contracts (HABITAT, 1989).

So that, as per the HABITAT research it can be understand that, the direct involvement of local community in rural water supply projects enables them to feel responsibilities as owner ship by providing them a better understanding of the water supply projects system. Accordingly, In case of Jimma Zone, in order to strengthen community involvement and to create strong sense of owner ship in overall water supply projects construction process, extensive impact assessments is needed to identify overall problems.

According to Federal Democratic Republic of Ethiopia WASH Program Operational Manual , for the Consolidated WASH Account in its Volume-I document indicated that, activities during project implementation phases are designed to ensure the effectiveness of implementation in accordance with the agreed principles, procedures and terms. For medium-sized towns, Water Boards (Community representatives) submits business plans with regional guarantee and matching fund commitment. This for construction, rehabilitation, and optimization of urban water production, treatment, and distribution systems, to increase efficiency and resilience .Selected towns have been eligible to receive financing based on their readiness. Independent confirmation of readiness will have put in place to ensure rigorous appraisal prior to infrastructure construction investment financing. There is a budget ceiling for individual WASH projects. This ceiling budget is determined based on agreement concurrently to the criteria at least 30% matching fund per project (WASH, Operational Manual, 2019).

As mentioned above, it must be requires to fulfill many prerequisites before water supply projects constructions to begin in accordance with the rules and regulation of WASH program. In order to benefit from the financial support provided by this wash program for construction of water supply project, the community must meet the requirements set as principles by the program through acceptable procedures. But, in the Jimma zone, the communities, those got this chances did not do what was expected of them, among this, they did not pay expected matching funds at all or not paid on time, do not own the projects as a sense of owner ship with full responsibilities. All this situations not only prevented them more benefited from the opportunity, but also it makes a large barrier on the completion of the project construction in the zone. Therefore, it is important to assess the root cause of the problems in this research. According to Ethiopian water policy, during rural water supply projects the entire pipeline excavation has worked with the participation of the user's community, based on this concept, the tranches depth and width are excavated as per standard and also completed within the required time, otherwise,

this participation of the community hurts the contractor's performance. The Design Criteria for water Supply system construction used by Oromia Water & Energy Bureau for Seka town and other water supply projects shows in the articles of the document indicated in Design Report Water Supply & Sanitation Facilities:

Article: 5.4.4 - Trench Depth: Where the pipe has subjected to vehicular traffic the minimum cover provided shall be 1.0 m. In other areas, the minimum depth of cover will be 0.8m or 0.9m depending on the selected material. If the above depth has obtained due to the natural ground profiles, the pipes will be covering in concrete.

Article: 5.4.5- Pipe Backfilling and Bedding: A typical trenching, backfilling and bedding design nearby backfilling material type and bedding thickness is included in the tender documents (Ketema Consulting, 2019).

However, as it is has indicated in the reports of the water office in the Jimma zone in 2012, most of the water supply projects pipeline excavation and backfilling works have found to have serious problems, which have not conducted to the required standards. Then, to indicate the root causes of the problems an assessment of community participation in trends of trench excavation for pipe work is very essential.

2.4. Summary of literature

The Evidences from many studies carried out in relation to community participation in construction of water supply project and an experience indicated that, the community involvement in rural water supply project construction is common practice in all corner of the world, but it is different in its application and interest of participation. Construction of sustainable water supply project within the designed schedule of time and cost has required allocation of adequate financial and other resources. However, donor and government dependency as the sole provider for most water supply projects have led to poor sustainability, although the government and donors can provide support whenever possible, the communities are encouraged to demonstrate efforts in sustaining their water supply projects (Mwakila William, 2008).

The community was required to contribute a portion of capital to water project construction. Water project coordinators revealed that community members contributed both in cash and in labor. Community member’s involvement in all stages of water supply project implementation and use of local knowledge has taken into considerations, as this would make the projects more

sustainable. In some countries, Community mobilization should start at the initial stage of project implementation and community members should well brief at the beginning of water project about their cost and labor sharing in the project (The Hague, the Netherlands December 2008).

Some experiences of Nepal indicate that, in Small Town Water Supply Project, 50% of the investment cost was recovered from the users. In Butwal Municipality, Water supply project implementation in urban 80% capital cost contribution by the communities. This approach helps to complete the projects on time and helps the community immediately gain access to water supply services (Water Aid, 2005).

In Tanzanian's of Community Participation during construction of rural water supply projects indicated that; involvement of local communities was not limited to financial contributions, they were participated in physical labor in forms of jobs either digging trenches for water pipes and filling them up after the pipes had been laid or collecting building materials such as sand and stones. This form of participation, especially of labor was encouraged by the local leadership mainly because it was more capable of causing tremendous savings in financial and labor resources. (Mark R.Munvahuzi, 1983).

In Sri Lanka ,Colombo municipal area, community participated projects, a contract has signed between a government agency and the community to carry out construction of water supply projects in their area, eighty per cent of the contracts completed on time, only five took longer than the scheduled time and one exceeded projected costs. This represents a marked improvement compared with experience with conventional contracts (HABITAT, 1989).

On the contrary ,in Tigray Region of Ethiopia, the primary stakeholders do not participate in the important stages of the water supply schemes like identifying, planning and execution of the schemes, which leads to the projects did not completed on time, poor quality, poor sense of ownership and ineffective monitoring mechanism. This indicates that, to be successful and sustainable in any water supply scheme the primary stakeholders should take part in every phase of the project (Meniga, 2019).

The research in Amhara region, Co-WASH water supply project construction Program start with how much the community contributes to the total cash, labor, and local materials required for the construction of projects for a community-managed water supply and what percentage of the necessary regular contributions does it make during the post-construction phase (Besha M., 2015). Another practice related to community contributions prevails whereby communities are selected based on the number of their contributions; the greater the contribution of labor, local

materials, and cash deposits, the higher the probability that a community will obtain a water point. (Annala Linda, 2021).

2.5. Gaps in the Literature

Jimma Zone has been experiencing poor community participation during construction of water supply projects in terms of financial and labor contributions (JZWEO, 2021). However, experiences of many countries indicated that; they have attempted to the application of a participatory approach during Construction of water supply projects for their communities. Based on existing practical evidence of different countries, they have somewhat improved by the introduction of community participatory techniques.

- In Tanzanian's of Community Participation during construction of rural water supply projects indicated that; involvement of local communities was not limited to financial contributions, they were participated in physical labor in forms of jobs either digging trenches for water pipes and backfilling them up after the pipes had been laid or collecting building materials such as sand and stones. This form of participation, especially of labor was encouraged by the local leadership mainly because it was more capable of causing tremendous savings in financial and time resources. (Mark R. Munvahuzi, 1983).
- The study made by Water Aid in Nepal in 2005, identifies that: in Small rural towns Water Supply Project, 50% of the investment cost covered from the users. In urban cases, Butwal Municipality 80% capital cost contribution by the communities. Therefore, this approach helps to complete projects on time and enabled the community to immediately gain access to water supply services" (Water Aid, 2005).
- In Tigray Region of Ethiopia, the primary stakeholders do not participate in the important stages of the water supply schemes like identifying, planning and execution of the schemes, which leads to poor quality and loss of time during construction of the project, poor sense of ownership, and ineffective monitoring mechanism. (Meniga, 2019).
- Practices in Co-WASH program water supply projects construction, a community selected to provide water supply project based on the number of their contributions. In most construction of water supply projects, the communities deposit 5% to 15% cost sharing at a local microfinance institution before or during the construction of the water projects; the greater the contribution of labor, cash deposits and local materials, the higher the probability that a community will obtain a

water supply projects in their locality. This witnessed community would need to compete in financial and labor participatory terms to obtained water supply. (Annala Linda, 2021).

- In Sri Lanka ,Colombo municipal area, community participated projects, a contract has signed between a government agency and the community to carry out construction of water supply projects in their area, eighty per cent of the contracts completed on time, only five took longer than the scheduled time and one exceeded projected costs. This represents a marked improvement compared with experience of conventional contracts (HABITAT, 1989).Thus, this thesis were attempt to assessed the way of practice as well as the main encountered problems during participation and impacts of financial and labor Community Participation related to cost and time schedule during construction of Water Supply Projects in selected four weredas of Jimma Zone.

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

3.1. Description of the Study Areas

The study was conducted the National and Regional State of Oromia, in the Jimma Zone, which is located at a distance of 360 Km from the capital, Addis Ababa. Jimma Zone has 21 Weredas and 3 municipal towns including the capital town, Jimma. The study areas have an altitude varies from 1380 to 3018 m above sea level and embraced a location between latitude and longitude of 7°30′00″ N to 8°05′00″ N and 36°05′00″E to 37°30′00″E respectively. The total area of the zone is 18,412.54 KM2 (Jimma Zone Agriculture office, 2022).

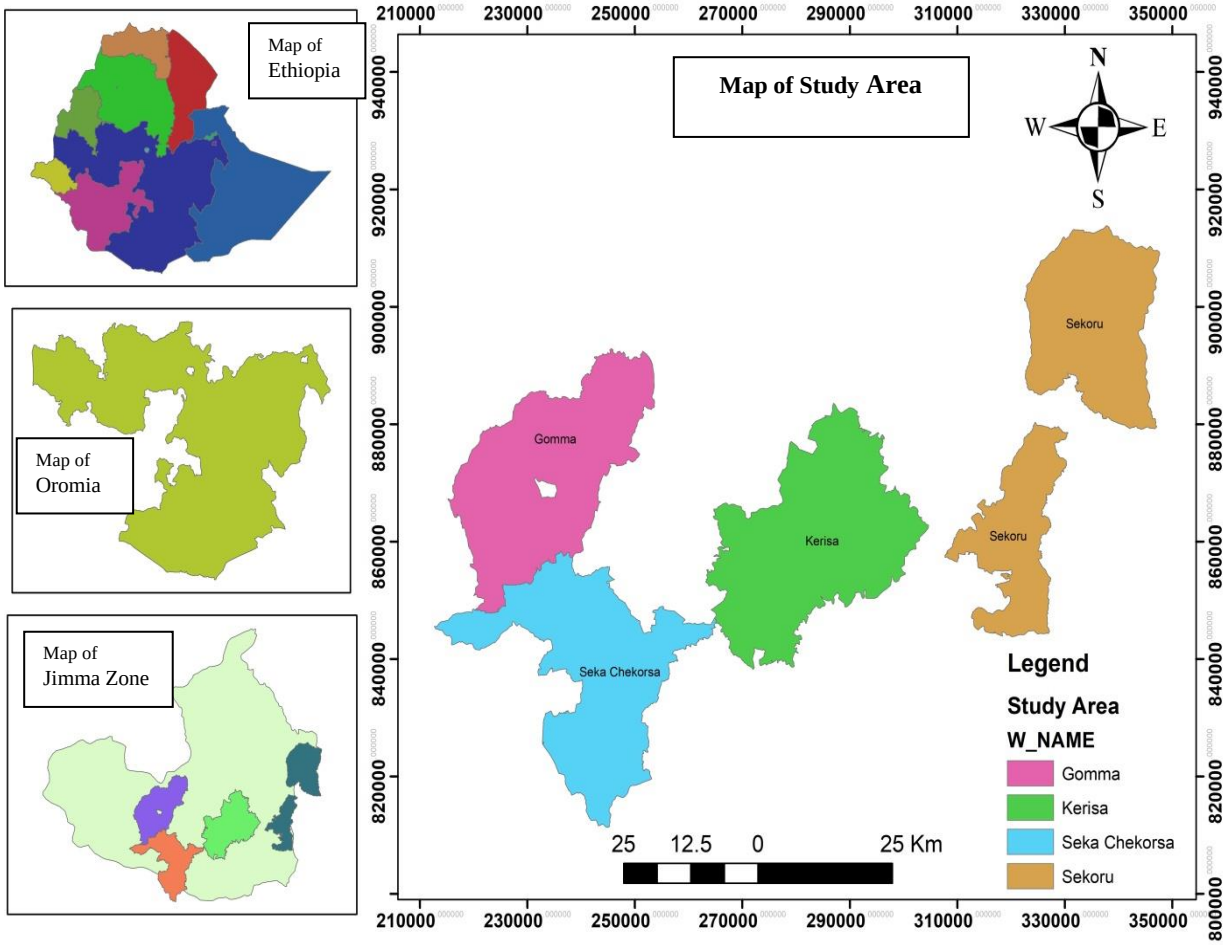


Figure 2 Map of the study area
Source: self-elaboration, 2022

In this study, four (4) different districts of the zone were selected to conduct the research. The selection of the proposed weredas has based on considering four different climatic and socio-economic clusters of direction in the zone, each cluster divided into five weredas. Which has represented with one selected weredas as a center of a cluster and considers the number of constructed water supply projects in the weredas taken as a representative of the cluster, which is Seka-Chokorsa wereda represents the south-West, Kersa wereda represents the Central part, Sokoru wereda represents the North and Gomma wereda represents the West direction of the zone. According to the zonal Water and Energy Office, the four words, Seka-Chokorsa, Kersa, Sokoru, and Gomma weredas, are 18km, 20km, 100km, and 45km respectively. The Water coverage in each Wereda has estimated at only total 37% (24% rural coverage and 76% urban coverage), 37% (24% rural coverage and 76% urban coverage), 37% (24% rural coverage and 76% urban coverage) and 37% (24% rural coverage and 76% urban coverage) respectively. The total constructed projects in each weredas are; Seka-Chokorsa 972, Kersa 1580, Sokorru 784, and Gomma 1411 (JZWE Office, 2022).

3.2. Structure of Research

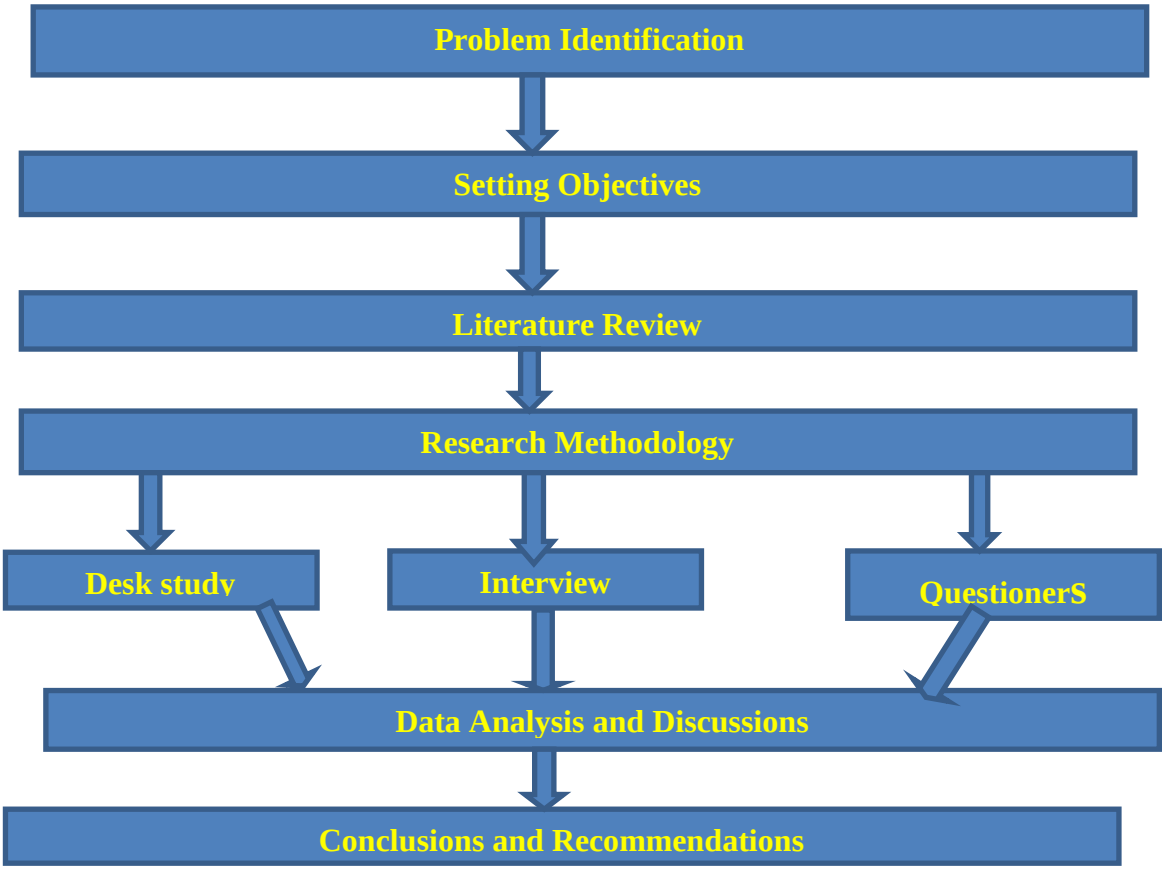


Figure 3 Structure of Research

3.3. Research Design

Mixed-methods approach, a well-known approach in social science, combines qualitative and quantitative research approaches to collect and analyze both primary and secondary data. (Erick Oniango Ananga, 2015) noted that the mixed approach falls into two broad categories, namely fully and partially mixed methods. The difference between the two is that in fully mixed-methods both qualitative and quantitative techniques have mixed within one or more stages of the research process. However, in partially mixed methods, both the quantitative and qualitative elements have conducted either concurrently or sequentially in their entirety before the data interpretation stage. The main features of qualitative research include observational methods, in-depth interviewing, focus group discussions, narratives, and analysis of documentary evidence. Quantitative research design has often used in the development planning and association where data is objectively collected and converted into numerical forms (Erick Oniango Ananga, 2015). In this research, methodology in partially mixed methods approach was used to collect and analyze both primary and secondary data in Quantitative and Qualitative research approaches.

3.4. Research Questionnaires

The Research was assessed financial and labor community participation in water supply projects during construction of the project, in Jimma Zone, by addressing questions focused on the financial and labors community participation. In which the trench excavation for pipe laying, backfilling the earth after laying, matching fund sharing for project financial contribution, access road construction and allocation of land for the projects, Problems, and challenges in Communities participation activities during construction.

The research was designed using different methods of data collection; Pre-tested, structured questionnaires were used, interviews, discussions, and personal observations were employed to produce primary data. Additionally, secondary data was collected from existing documents, reports, and other sources from sectorial offices and concerned bureaus inside and outside the woredas. A focus group discussion was conducted with water committee members, woreda water staff, community leaders, local leaders and religious leaders to collect qualitative data using a semi-structured questionnaire guide and note taking. The respondents were invited to rate their opinion according to five-point, Likert scale (1=Very low effect, 2=low effect, 3=neutral effect, 4= strong effect, and 5= very strong effect). Likert scale was chosen in order to expand the way the respondents will be reply.

3.5. Sources of Data

This research was employed several techniques to get information and/or data. For primary data, Interviews were conducted with water users, kebele administrations, water committee, weredas water office, zonal water office officials as well as contractors and other technical experts were interviewed. Questionnaires were used in this study for kebele administrations, weredas water office, and zonal water office officials as well as contractors and other technical experts, especially focusing on related to the selected water supply projects of the kebele.

For secondary data, a desk study was employed focusing on financial and labor community participation in rural water sectors. Information was obtained from several websites and related reports on water sectors. Reference books, journals as well as past research on the related field of study were used as sources of secondary data.

3.6. Research Sample Selection

This study was used both probability and non-probability sampling designs. In probability sampling design, each unit in the population had an equal chance while in non-probability sampling design; the interest was in the representativeness of concepts in their varying form. Probability sampling designs such as cluster sampling and multi-stage random sampling designs had used while non- probability-sampling designs include purposive sampling designs. Specifically, in this study cluster sampling was used because of the vastness of the study area in the zone.

In the first stage, In Jimma, due to suitability of administration, there were four different divisions of climatic and socio-economic clusters of directions in the zone: Gomma cluster-West direction, Sokkorru Cluster-Northern direction, Kersa cluster-Central & Eastern direction, and Seka-Chokorsa cluster- South-West direction and each cluster divided into five weredas (Jimma Zone Administration). Therefore, from the clusters four woredas were selected purposively, one wereda from each cluster. Because of considering the selected wereda as a center of a cluster, the number of water supply projects inside the wereda and researcher familiar with woreda.

In the Second stage, ongoing or provisionally handed over water supply projects from 2015 to 2022 were selected purposely based on the cost, complexity and level of construction stage in the water supply projects. Water supply Projects categorized into three levels of construction. Small-scale projects: Hand-dug wells, spring on spots, shallow wells, which used at a household level and Medium scale projects: Rural piped system water supply projects with beneficiaries of less

than 5000 people, and Large-scale projects: Urban or rural piped system water supply projects with beneficiaries more than 5000 peoples, (JZWE Office, 2022). Therefore, in this study, a total of, eight (8) medium-scale water supply projects were selected purposively in four weredas.

In the final stage, probability-sampling techniques were used to determine respondents for interview and focus group discussion from households of project users, in the four weredas. From the total households of water users of each project areas the sample size of the respondents for this study were determined by using (Yamane, T., 1967) Sample formula. Yamane formula can be described as follows:

Sampling formula**:** $n = \frac{N}{1+N(e)^2}$ ---------- (1)

Where n = sample size

N = total number of households

e= margin of error. $n = \frac{950}{1+950(0.08)^2}$= n ≈950/1+950(0.0064) ≈950/7.08 ≈133 ≈ n ≈133 HH

Accordingly, 133 sample households were taken from 4 weredas; 29 households from Kersa, 31 households from Seka chokorsa, 36 households from Sokorru and 37 households from Gomma respectively for group discussion. (Annex:A-1).

Purposive sampling was used to select 24 samples for another additional interviews from water committee, Local Leaders and different governmental workers around the projects areas in four weredas (Annex:A-2).

Additionally, Purposively 70 key informant groups were selected to distribute Pre-tested questionnaires. Based on their concepts and participation during projects construction in one or another way, educational background, ability to reading and understanding the Pre-tested questionnaires at the zonal and wereda level, for Engineers, Geologists, Sociologists, Office heads, department heads and Teachers, Developmental Agent Workers, Health Extension and Contractors and local leaders at each project areas (Annex:A-3).

3.7. Method of Data Analysis

After collection of the primary and secondary data, the response data tabulated. Based on the nature of the data, different data analysis methods qualitative and quantitative methods were used for data analysis. The collected data analyzed by RII and mean score analysis were used to get meaningful interpretation in line with the objectives of the study. The RII for each factors and

categories were computed by using Statistical Package for Social Sciences (SPSS) and Microsoft Excel. The Relative Importance Index (RII) formula could be described as follows:

$$RII=\sum w/(A*N) \text{ ---------- Equation (2)}$$

Where ‘w’ is the weighting given to each factor by the respondent, ranging from 1 to 5; ‘1’ is the least strong effect and ‘5’ is the extremely strong effect, ‘A’ is the highest weight in this study it is 5; and ‘N’ is the total number of samples. The relative importance index value ranges from 0 to 1. The group index is the average of relative importance index of the identified factors. On the other hand, quantitative data were analyzed using various statistics including measures of central tendency. Simple descriptive statistics was employed to analyze quantitative data. The statistics used include frequency and percentages.

3.8. Variables of the Study

3.8.1. Dependent Variable

- ✓ Financial and labor Community Participation

3.8.2. Independent Variables

- ✓ Causes for encountered problems in financial and labor Community Participation

CHAPTER FOUR

4. RESULTS AND DISCUSSTION

This chapter presents the findings of the study on which impacts of financial and labor community participation on completion time and cost during construction of medium-scale water supply projects in selected four weredas of Jimma Zone undertaken within the last eight years. The findings of the study have been discussed under focused areas and sub-sections in line with the study variables and objectives. The focused areas include studying the status of financial and labor community participation; problems encountered by financial and labor community participation, causes of the encountered problems, and the impacts on projects completion time and cost performance during water supply construction. The data was then summarized, coded, and analyzed using descriptive statistics using the Statistical Package for Social Science (SPSS) version, 20. The findings are presented in tables and graphs, which form a suitable basis for arriving at important findings and conclusions.

4.1. Questionnaire Response Rate

From the 70 questionnaires distributed to respondents, those the main parties directly or indirectly participated as a client, contractors, owners of the project and 64(91.43%) questionnaires were end filled and returned. From which, at zonal and wereda level water offices 35 questionnaires were distributed to office heads, department heads, engineers, geologists, and sociologists (those who lead projects as a part of the client) and 33 (94.29%) were filled and returned.

Out of the total questionnaires, 15 were distributed to the parties of contractors (to site engineers, plumbers and contractors itself) at project sites and 13(86.67%) were filled and returned. Additionally,20 questionnaires were distributed to the kebele level for the teams those expected as owner of the project and community coordinators at project sites (to the kebele Developmental Agents, Health extensions, Teachers, Water committees, Local leaders (“Gere” and “Got” leaders) in four selected weredas and 18(90%) were filled and returned. Therefore, from the total questionnaires 91.43% were valid and suitable for data analysis about the purpose of this study.

In addition to these 133 focus group for interview and discussion (24 water committee, Local Leaders and different governmental workers). Also from households in four weredas at eight projects sites, 29 from Gomma Wereda, 35 from Seka-Chokorsa Wereda, 27 from Kersa Wereda

and 30 from Sokoru Wereda, total of 122(91.73%) households' interviewed and discussion were made.The number of questionnaires distributed to respondents and returned with corresponding percentage presented in a tabulated format as shown on Table 1:

Table 1 Summary of Questionnaires distributed, Returned and Response Rate

No	Respondents	Distributed Questionnaires		Questionnaires Returned		Response Rate
1	As Client (Zonal & wereda water office)	35	50%	33	52%	94.29%
2	As Owner of the project (at Kebele level)	20	29%	18	28%	90.00%
3	As Contractor's Team	15	21%	13	20%	86.67%
	Total	**70**	**100%**	**64**	**100%**	**91.43%**
4	Focus group discussion with different groups	133	100%	122	100%	91.73%

4.2. Demographic Characteristics of Respondents

The survey questionnaires filled and returned by various bodies of different professions, experience and level of education. The demographics of respondents were as categorized in the following sections:

4.2.1. Distribution of Respondents in contractors' team of construction

Respondents, those direct participants in the implementation of the projects as a part of a contractor requested to gauge the extent of the community participation during the construction of eight selected projects in four weredas. As it can be observes from Table-2 & Figure-4 below, the resulting distribution of the respondents among the direct participants during the implementation of water projects as a part of the contractor was the Contractor itself and his Site Engineer 30.77% each, 38.46% plumbers and others staffs. This indicated that, adequate representation of views from the direct projects implementation participants of respondents from the contractor side to this research.

Table 2 Respondents as a Team of Contractors

Respondents as a Team of Contractors			
Team of Contractors	Respondent Frequency	Percent	Cumulative Percent
Team of Contractor	4	30.77	30.77
Site Engineer	4	30.77	61.54
Plumber & Other workers	5	38.46	100.0
Total	**13**	**100.0**	

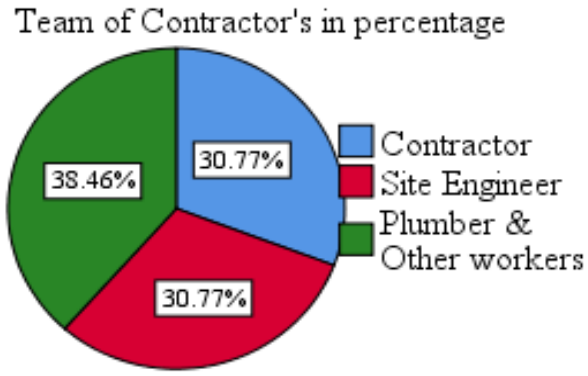


Figure 4 Distribution of Respondents as a part of contractors

From the above figure 4, these diverse occupational distributions were provided sufficient information for the study. Accordingly, the contractors were given the overall information about the status of the project completion time, cost performance and the encountered problems related to financial during the construction of project. In addition, the site engineers and plumbers were often in the work, so they were shown the problems encountered related to community participation during the project construction works.

4.2.2. Respondents at Zonal and Wereda water offices as a client of projects

Respondents were also requested to indicate the situation in community participation according to their job titles. As it can be observes from Tables-3 & 4 and Figure-5 below, the resulting distribution of the 33 respondents from zonal and weredas water offices were 12.12% Office heads, 27.27% Department heads, Engineers & Geologists each 18.18%, and 24.24% Sociologists. In addition, the resulting distribution of the 18 respondents at the kebele level was 50% Kebele governmental works, 22.22% Water Committees and 27.78% local leaders. These categories of respondents had direct or indirect ways of practical experience in the construction of the water supply projects under selected study areas. It was therefore expected that the information about community participation on financial and labor is valid and reliable.

Table 3 Respondents at Zonal and Wereda water offices as a part of client

Zonal and Wereda water offices as a part of client			
	Respondent Frequenc	Percent	Cumulative Percent
Office Head	4	12.12	12.12
Department Head	9	27.27	39.39
Engineer	6	18.18	57.57
Geologist	6	18.18	75.76
Sociologist	8	24.24	100.0
Total	**33**	**100.0**	

Table 4 Respondents at Kebele level as owners of the projects

Kebele level respondent as owner in Percentage			
	Respondent Frequency	Percent	Cumulative Percent
Kebele Governmental Worker	9	50.00	50.0
Water Committee	4	22.22	72.22
Local Leaders	5	27.78	100.0
Total	**18**	**100.0**	

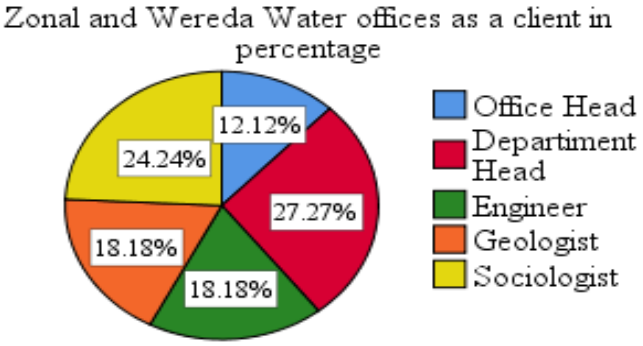


Figure 5 Distribution of Respondents at Zonal and Wereda Water offices

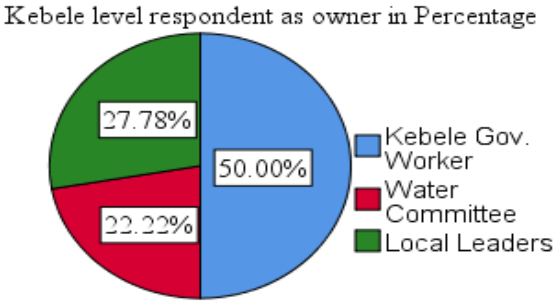


Figure 6 Distribution of Respondents at Kebele level

From the above figure 5 & 6, The office and Department heads at zonal and wereda levels are the top managements and decision maker of the projects, they were provide full information about the total allocated budget and the governmental policy on the issue of community participation during construction of project. As a client, the key coordinators and supervisors of the project during construction on behalf of the zonal and wereda water offices are the engineers, geologists and sociologists. Also, as owner of the project the community represented by the local leaders, water committee and kebele governmental workers living in the area. Those categories of respondents have practical experience in construction of water supply projects in their locality at areas of the assigned work. Therefore, it was expected that the information about the overall status of the project, cost and time performance and the encountered problems related to community participation during the construction of project they gave was valid and reliable in the study.

4.3. Level of education

The analysis of the educational background of the respondents is shows in table-5 & figure-7 below, which shows that more than 68.75% of the respondents have above Diploma related to water supply and other field of similar education.

Table 5 Education Status of the respondent

	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
MSC	5	7.81	7.81	7.81
BSC	27	42.19	42.19	50.0
Diploma	12	18.75	18.75	68.75
Certificate	13	20.31	20.31	89.06
<= grade 12	7	10.94	10.94	100.0
Total	**64**	**100.0**	**100.0**	

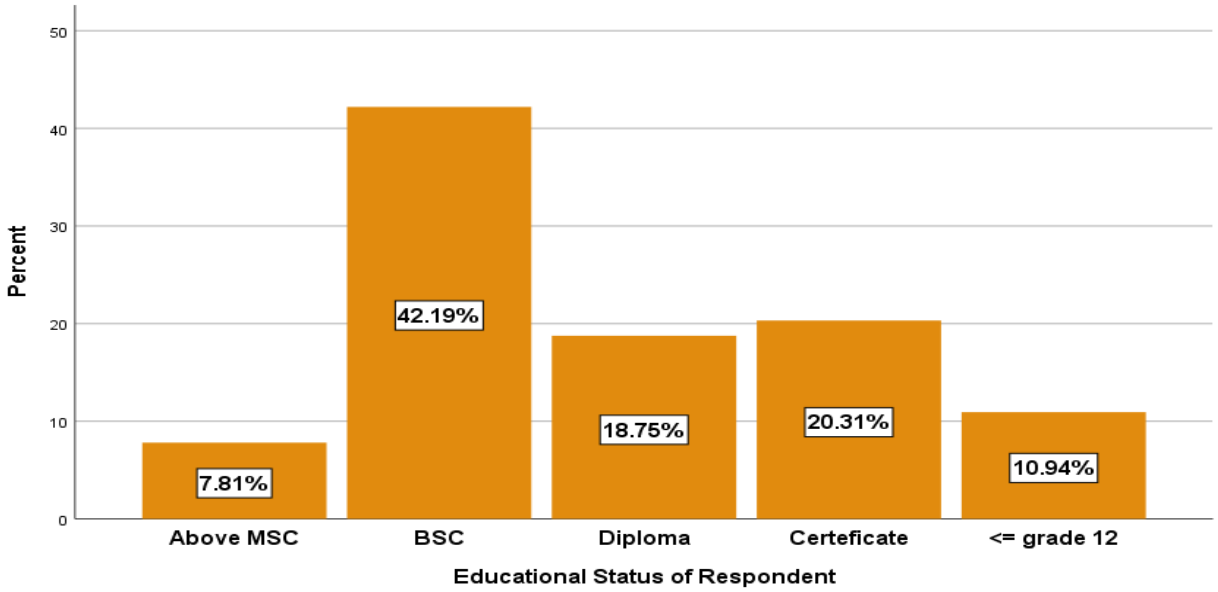


Figure 7: Education level of respondents

From the above figure 7, shown that, 68.75% of the respondents had a diploma or above, and they were able to understand the overall project works through professional evaluation and provided the valid and reliable inputs for the study based on their knowledge.

4.4. Respondents' years of experience

Respondents were asked to state their years of experience in the field of their professions. In terms of their experience, from 64 distributed questionnaires, more than 71.9% of respondents had an experience of more than 6 years in their current profession.

Table 6 Year of Respondents Experience

Year	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
>20 years	5	7.81	7.81	7.81
16-20 years	8	12.5	12.5	20.31
11-15 years	15	23.44	23.44	43.74
6-10 years	18	28.13	28.13	71.9
1-5 years	11	17.19	17.19	89.1
< 1 year	7	10.94	10.94	100.0
Total	**64**	**100.0**	**100.0**	

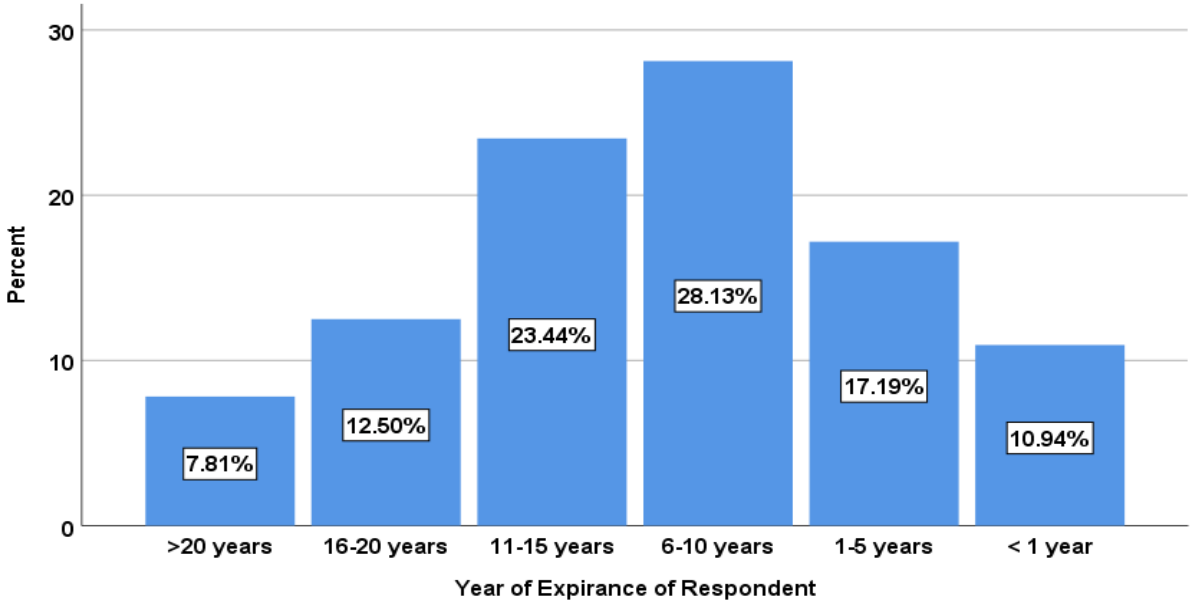


Figure 8 Respondents' years of experience in the field of their professions

From the above figure 8 shown that, the more respondents experienced in their profession, they judged or given adequate information and they were expected to have had sufficient direct or indirect experience in these projects' construction. It was, therefore, expected that their experiences would provide accurate information about the financial and labor community participation; the problems encountered through participation and its influences on the completion time and cost performance during water supply projects construction to the purpose of study.

4.5. Respondent Participation in Similar projects execution

Respondents were also required to indicate the number of similar projects that they had participated during execution in the past. Their responses are summarized in table-7 & figure-9 below, the results indicates that 76.7% of all the respondents had participated in the implementation of more than 2 similar water supply projects.

Table 7 Respondent Participation in Similar projects execution

Participation	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Participated in 1 project	15	23.44	23.44	23.44
Participated 2-5 projects	36	56.25	56.25	79.69
Participated >5 projects	13	20.31	20.31	100.0
Total	**64**	**100.0**	**100.0**	

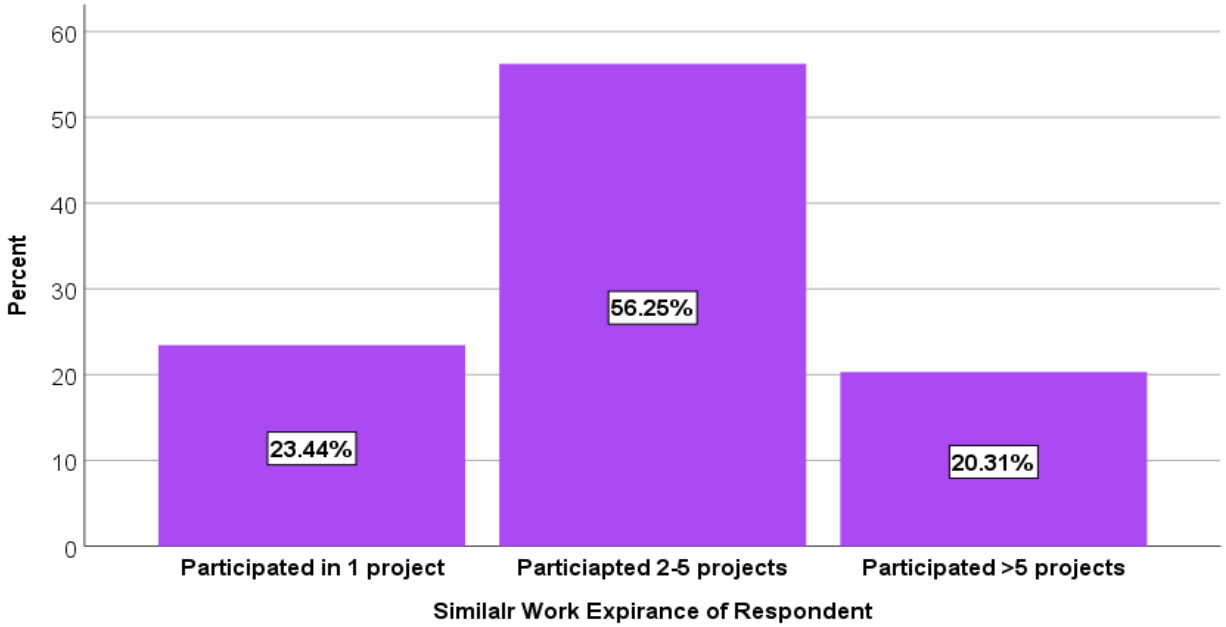


Figure 9 Similar Projects experience of respondents

The above figure 9, a good indication of their wealth of experience. It was, therefore expected that their experiences provided reliable information to the study on factors that influence the project completion time and cost of construction during water supply projects from the perspective of the financial and labor community participation.

4.6. Distribution of respondents according to year of lived in the area

From 18 Respondents; local leaders, water committee and Kebele governmental works, were asked to state the length of the living period around the project area. Table-8 figure-10 below shows that 66.7% of the respondents have been living in the area for more than 1 years; this simply implies that the respondents were residents of the study area. This points out that the data collected from them is relevant and valid.

Table 8 Respondents' length of Years living in the area

Year	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
> 10 years	4	22.22	22.22	22.22
6-10 years	5	27.78	27.78	50.0
1-5 years	3	16.67	16.67	66.7
<5 years	6	33.33	33.33	100.0
Total	**18**	**100.0**	**100.0**	

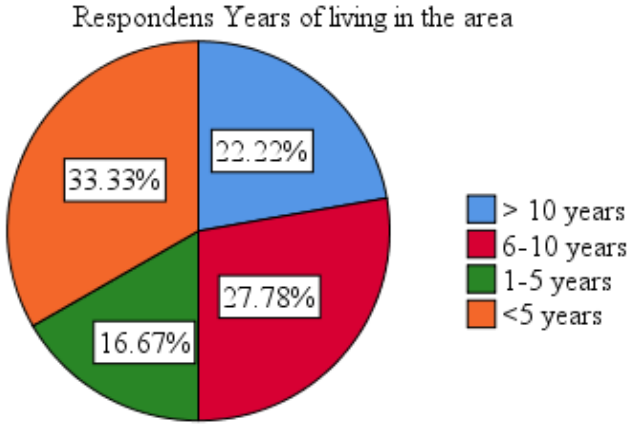


Figure 10 Respondents' length of Years living in the area

From the above Figure 10 showed that; the total 50% of the respondents lived more than 6 years in the area. So that, they were given additional important information to the research about the trends of community participation of the area and 16.67 % of the respondents lived up to 5 years in the area, so that, they were able to given relevant and valid information how the project has been constructed in the area.

4.7. Community Participation during construction of water supply projects

According to this study, therefore, assessed some practices of financial and labor community participation during the construction of water supply projects and their impacts on time and cost during water supply projects construction were the main objective of this research.

4.7.1. The Level of communities' participation

Respondents were asked to point out if they participated or not during the construction of water supply projects. From 64 respondents, the Findings in table-9 & figure-11 below shows that 51(79.69%) of the respondents participated during the construction of water supply projects in terms of different contributions, while 13(20.31%) of the respondents do not participate during the construction of water supply projects. This shows that still, communities do not participate in the construction of water supply projects in their locality as the situation required.

Table 9 Level of Community Participation

	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Participated	51	79.69	79.69	79.69
Not participated	13	20.31	20.31	100.0
Total	**64**	**100.0**	**100.0**	

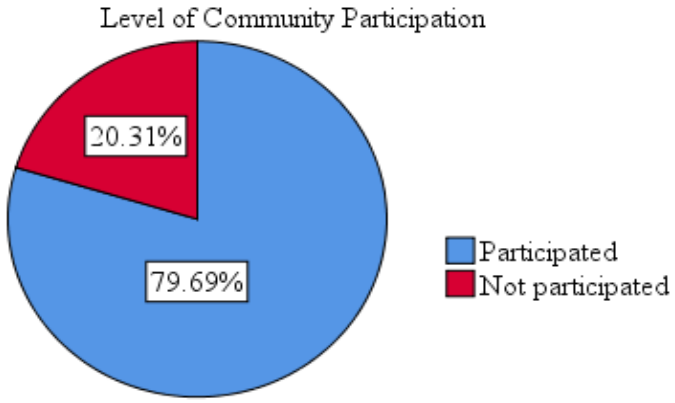


Figure 11 Level of Communities participation

From the above Figure 11, 20.31%, which is not assumed easy numbers of the communities that did not participated in construction of water supply projects were provided an important information to the research to understood about the problem of community participation during water supply project construction in their locality.

4.7.2. Forms of Community participation

The study intended on finding the level of community participation during the construction of water supply projects and its involvement in formulating project goals, objectives, and strategies. Respondents were asked to point out if they participated, and in what form of participation participated during the construction of water supply projects. The response in table-10 Figure-12 below indicates that 100% of the community responded, that they have participated in all types of participation during the construction of water supply projects. However, the study established community participation in the following two areas; financial and labor. In addition, it can be shows 57.81% of respondents in the study areas provided labor contribution and 4.69% of the respondents contributed in cash during the construction of the water supply project. This implies that most of the community members' participation was in terms of labor but few in cash contribution. This low cash contribution leads to a shortage of construction costs during project accomplishment.

Table 10 Forms of Community Participation

Forms of Community Participation	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Financial participation	3	4.69	4.69	4.69
Labor participation	37	57.81	57.81	62.5
Giving Land for construction	24	37.5	37.5	100.0
Total	**64**	**100.0**	**100.0**	

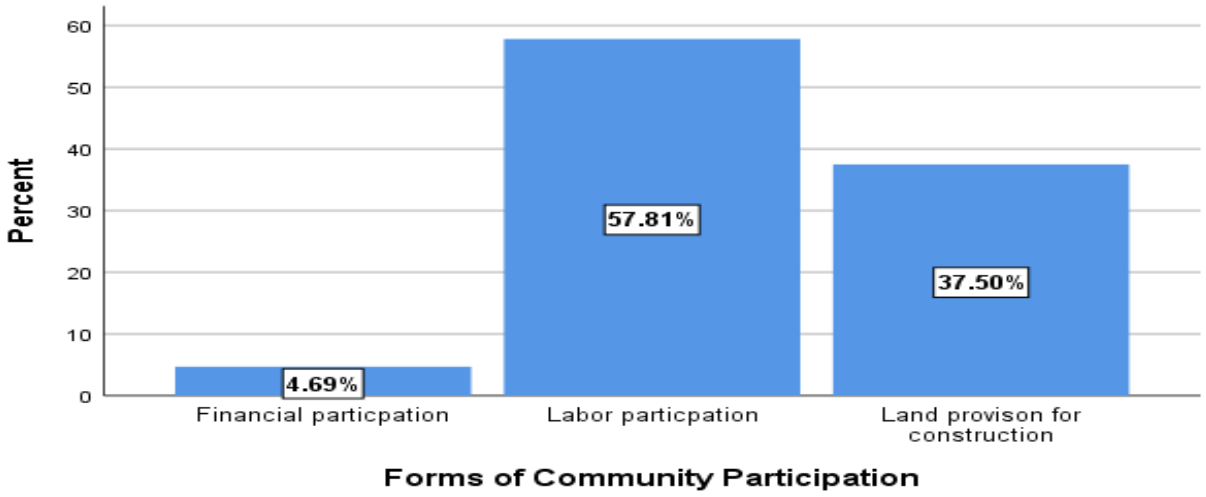


Figure 12 Forms of community participation

4.7.2.1. Financial and labor community participation

The results in Table-11 below show that only 6.3% of the communities participated financially in the construction of water supply projects, while 93.7% of the communities had no financial participation at all.

Table 11 Financial community participation

	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Yes	4	6.3	6.3	6.3
No	60	93.7	93.7	100.0
Total	**64**	**100.0**	**100.0**	

Table 12 Labor community participation

	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Yes	52	81.3	81.3	81.3
No	12	18.8	18.8	100.0
Total	**64**	**100.0**	**100.0**	

The results in Table-12 above enabled the research to understood, labor community participation during water supply projects construction was 81.3% and 18.8% do not participate with labor at all. This result indicated that the community cost sharing was the most difficult situation during water supply construction in the area and community labor participation was not in a full manner during the project construction in the area. Therefore, the research used the result as an important information and basic data for research analysis.

4.7.2.1.1. Forms of Community Labor Participation

Respondents were requested to indicate if the community participated in labor, and what forms of labor participation were performed during the water supply project construction. The results in table -13 below show that most of the community (46.9%) participated in both trench excavation and back filling of pipeline works during water supply project construction.

Table 13 Forms of Community labor participation

Form of labor participation	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Only pipe trench excavation	15	23.4	23.4	23.4
Only backfilling trench	11	17.2	17.2	40.6
Constructing access road	8	12.5	12.5	53.1
Trench Exac + Backfilling	30	46.9	46.9	100.0
Total	**64**	**100.0**	**100.0**	

4.7.3. Status of Financial and labor community participation

Respondents were requested to indicate their general evaluation of the financial and labor community participation during the water supply project construction in the areas. The results of tables -14 below shows that the community financially participated during water supply projects construction only 12.5 % is in Very good and good status, and the remaining 87.5% is fair and bad financial participation. In addition, the results of tables 15 below shows that, they evaluated labor community participation during all program water supply projects construction 81.3% is in Very good and good status, and the remaining 18.7% is fair and bad labor participation during construction of water supply projects in their area. The result indicates that the community's financial contribution was a serious problem and labor participation was not satisfied during the construction of the water supply project in the area.

Table 14 Status of Financial community participation

Status	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Very good	2	3.1	3.1	3.1
Good	6	9.4	9.4	12.5
Fair	16	25.0	25.0	37.5
Bad	40	62.5	62.5	100.0
Total	**64**	**100.0**	**100.0**	

Table 15 Status of labor community participation

Status	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Very Good	32	50.0	50.0	50.0
Good	20	31.3	31.3	81.3
Fair	7	10.9	10.9	92.2
Bad	5	7.8	7.8	100.0
Total	**64**	**100.0**	**100.0**	

4.8. Cost and Completion Time of the Projects

The first objective of this study was to assess how financial and labor community participation influences the allocated construction cost and completion time during water supply projects in selected wereda of the Jimma zone.

The financing provides the financial resources required to meet the project investment budget as indicated in the project's bill of quantities of the contract agreement. Inadequate construction investment budget and bad cash flow that may be caused by financial community participation, contractor's and client's total financial difficulties, have a heavy bearing on the project smooth running of project construction.

The study conducted on the project financing experience, in Tanzania, "Developing a sustainable water supply projects required adequate financial resources. Donor and government dependency as the sole provider for most water supply projects has led to poor sustainability of water projects, although the Government and donors can provide support whenever possible, the communities should be encouraged to demonstrate their financial efforts in participation (URT, 2002)". Also the study of an experience in labor Community Participation in Rural Water Supply, "especially of labor participation should be encouraged the community by the leadership mainly because it was more capable of causing tremendous savings in financial resources, which otherwise have been used to pay laborers. Furthermore, it was believed that, this contribution of labor created a sense of ownership and responsibility and strengthened a spirit of self-reliance in the minds of the local people who participated in the construction of the water schemes (Mark R. Munvahuzi, 1983)". Therefore, Labor community participation played an important role and provided supportive situations to complete the projects as per the schedule. The absence of interest in the community to participate in labor during the implementation of projects by different causes, obviously tackled the project's smooth running leading to delayed completion of projects.

Accordingly, all other factors remaining constant, financial and labor community participation during the construction of the water supply project play significant roles in the cost and time of the projects.

4.8.1. Source of budget for project construction of the area

Respondents were invited to indicate the source of the project's construction budgets to understand where is the source of the budget for the construction of the project. The respondents gave their responses as the results show in table-16 & figure-12 below. The source of budget for construction of the projects in their area was 82.8% from Government only, 12.5% from the donation of NGOs, 3.1% from Government and Community sharing, and 1.6% from NGOs and Community sharing. The total respondents indicated that the community sharing covered 4.7%

of the budget for the construction of the project and collaborated with the government or others donated in their locality. The result indicated that, this lower-than expected financial participation of the community, led to a lack of investment budget for construction of water supply projects in the area.

Table 16 Source of budget for project construction

Source of Budget	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Government only	53	82.8	82.8	82.8
NGO only	8	12.5	12.5	95.3
Government + Community Sharing	2	3.1	3.1	98.4
NGO + Community Sharing	1	1.6	1.6	100.0
Total	**64**	**100.0**	**100.0**	

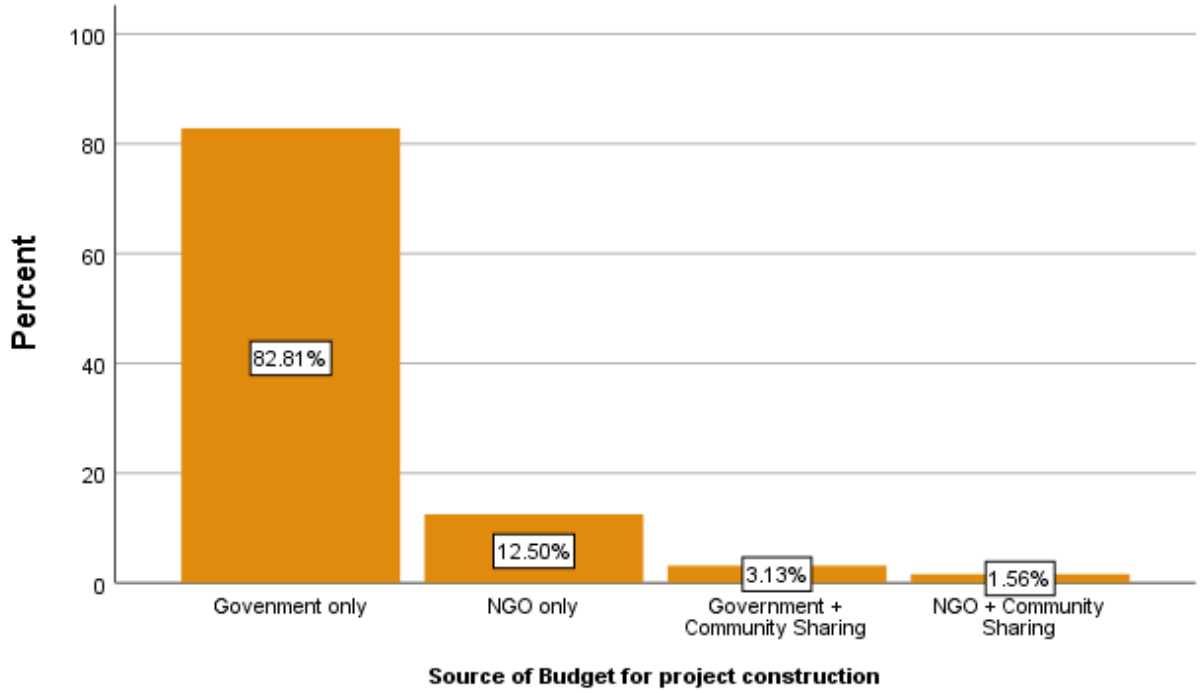


Figure 13 Source of budget for project construction

The result from the above Figure 13 & Table 16 indicated that, this lower-than expected financial participation of the community, led to a lack of investment budget for construction of water supply projects in the area.

4.8.1.1. Adequacy of the Projects' budgets

Respondents were asked to indicate whether the project budget was sufficient to complete the project as designed. The results in table-17 below show that 29.7% of projects had sufficient budgets, while 70.3% had insufficient budgets to complete the projects as specified in the contractual agreements. The result indicates that the shortage of construction budget was faced after the project construction started. In the research this was evidenced by the fact that the contractors' requested payment or retention money could not paid on time. This situation was became a big challenge by affecting the financial performance of the project of the areas as a whole.

Table 17 Budget adequacy of the Projects

	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Yes	19	29.7	29.7	29.7
No	45	70.3	70.3	100.0
Total	**64**	**100.0**	**100.0**	

4.9. Trends of Projects' completion time

This part of the study aimed at assessing the completion timelines of the completed or ongoing projects respectively.

4.9.1. Projects' status

Respondents were required to indicate whether the projects in the area were completed or ongoing. Table-18 & figure-13 below, indicates that 62.5% of the projects were completed while 37.5% are currently ongoing. This by representation indicated that, from eight projects in the area, five projects were completed in the last eight years, while three are currently ongoing in four selected weredas of the study areas.

Table 18 Project Construction Status

	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Completed project	5	62.5	62.5	62.5
Ongoing project	3	37.5	37.5	100.0
Total	**8**	**100.0**	**100.0**	

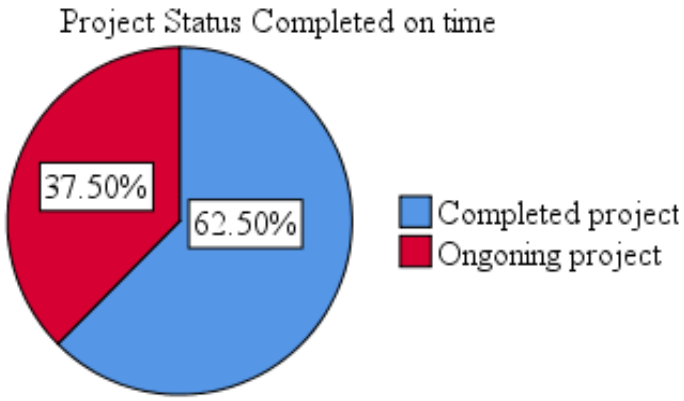


Figure 14 Projects' status

From figure 14 shown that, it was possible to get important information for this study by understanding the construction process of the projects that have been completed and are still under construction in the area where the study was carried out.

4.9.1.1. Completion timeliness for Completed projects

Of the completed projects, the respondents were asked to indicate whether they were completed as per the initial schedule (time). The responses given by the respondents in Table-19 below shows that in the area, 21(32.8%) of the projects were completed as per the initial schedule while 43(67.2%) were not completed on schedule.

Table 19 Project's Completion Timelines

	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Yes	21	32.8	32.8	32.8
No	43	67.2	67.2	100.0
Total	**64**	**100.0**	**100.0**	

4.9.1.2. Time Status of the ongoing projects

From the total of ongoing projects, respondents were required to indicate whether they were on schedule. The answer of respondents in Table-20 below shows that 35 (54.7%) ongoing projects were behind schedule. All other factors remaining constant, it was those ongoing projects behind schedule were completed late.

Table 20 Ongoing Project's Schedule Status

	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Yes	29	45.3	45.3	45.3
No	35	54.7	54.7	100.0
Total	**64**	**100.0**	**100.0**	

Table 21 Trends of the project's Completion time in Case of Jimma Zone

S/No	Name of Projects	Year of Commencement	Year of Completed	agreement (planed) completion days	Actual completion date (Days)	Extended days
1	Koma Project	2001	2002	120	more than 360	240
2	Geshe Project	2001	2002	120	more than 360	240
3	Sigimo Town Project	2002	2003	120	more than 360	240
4	Wayu Town Project	2002	2003	120	more than 360	240
5	Limu-Genet Project	2003	2004	120	more than 360	240
6	Oba-Toli Project	2003	2004	120	more than 360	240
7	Yukuro Project	2003	2004	120	more than 360	240
8	Omo-Guride Project	2003	2004	120	more than 360	240
9	Omo-Funtule Project	2003	2004	120	more than 360	240
10	Raga-Siba Project	2003	2004	120	more than 360	240

Source: Reports from JZWEO, 2012

The results of tables-19 and 20 above clearly indicated that on average only 25(39%) of the studied ongoing and completed projects had "Yes" and achieved timely completed while 39 (61%) had "No" and delayed in completion time indicating that due to different reasons delay in construction of water supply projects is a big challenge in the study areas. In addition, the reports from JZWEO in table-21 above indicate that, although in Jimma Zone, the medium scale water supply projects construction contracts were made with the contractors for 120 days or 3 months under the same conditions, most of the constructed projects could not complete within the intended time line. So, it made clear the research understood in the area there was a problem with completion time both in ongoing and completed projects.

4.10. The main Problems during financial and labor participation

The WHO Community Participation Guide Line indicates that, "the Community participation refers to the involvement of the people in a community in development projects, the community must involve in the development projects (WHO, 2007)". According to Ethiopia WASH Program Operational Manual, "In order to benefit from the financial support provided by wash program for construction in medium scale water supply project, the community must be requires

to fulfill many prerequisites requirements set as principles by the program through acceptable procedures before water supply projects constructions to begin. The requirements, which the community essentially covers a minimum 15% financial contribution and labor work participation".

Tables-11&12 above shows that, the communities, 93.7% financially and 18.8% in labor not participated at all. Respondents were requested to indicate if the status of financial and labor community participation was in such a bad situation, and what were the main problems encountered in financial and labor community participation during water supply project construction in their locality.

4.10.1. The Main Problems during financial community participation

The result from the respondents in Table-22 below show that the main problems encountered in financial community participation during water supply projects construction were 4.69% Not Contributing on time, 15.63% not contributed the required amount, and 79.69% not contributing at all during construction of water supply projects. In addition, reports from JZWEO in Table-23 below show that in Jimma zone the cost community sharing during WASH program water supply project construction was in a serious problem. These situations, made a shortage of finance to pay the contactor's construction payment during the construction of the water supply project or retention after the provisional and final handover of the completed projects.

Table 22 Problems encountered during financial community participation

Descriptions	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Contributed, but not on time	3	4.69	4.69	4.69
Contributed, but not the required amount	10	15.63	15.63	20.32
Not contributed at all	51	79.69	79.69	100.0
Total	**64**	**100.0**	**100.0**	

Table 23 Total Project Budget Vs. current trends of community cost sharing

S/No	Name of Projects	Total Project Budget (NGO+ Comm.)	Expected community sharing in the construction	
			Community Share 5% Matching Fund	Payment paid by the community
1	Koma Project	936,478.40	46,823.92	0
2	Geshe-Luchine Project	824,325.80	41,216.29	0
3	Sigimo Town Project	1,343,299.60	67,164.98	13,507.74
4	Wayu Town Project	2,122,421.00	106,121.05	0
5	Limu-Genet Towan Project	23,000,000.00	2,300,000(10%)	100,000.00
6	Oba-Toli Project	981,055.70	49,052.79	9,168.48
7	Yukuro Project	904,921.60	45,246.08	12,836.13
8	Omo-Guride Project	1,599,167.00	79,958.35	24,985.42
9	Omo-Funtule Project	1,094,601.00	54,730.05	0
10	Raga-Siba Project	1,806,685.00	90,334.25	0.00

Source: JZWEO.2021

The results from the above Table-22&23; showed that, most of the communities did not financially participated during construction of water supply project in their locality. The studies had used this situation as great evidence to understand that there were problems of community financial participation during project construction.

4.10.2. Problems encountered during labor community participation

And also, in figure-15 below show that the main problems encountered in labor community participation during water supply projects construction are 14.06% not excavating & back-fill pipelines on time, 7.81% not constructing access roads for the project site, and 78.13% Well done, but, not as per standard depth & width during construction of water supply projects. These situations made a significant impact on the contractor's activities: As a result, the contractor could not lay water pipes, could not conducted pump test, could not supplied the required construction materials to the site, could not started and finished the construction on time in general. This situation greatly affects the project's time performance with regard to the contract agreement.

Table 24 Problems encountered during financial community participation

Description	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Not excavating & back-fill pipelines on time	9	14.06	14.06	14.06
Not constructing access roads for the project site	5	7.81	7.81	21.87
Well done, but, not as per standard depth & width	50	78.13	78.13	100.0
Total	**64**	**100.0**	**100.0**	

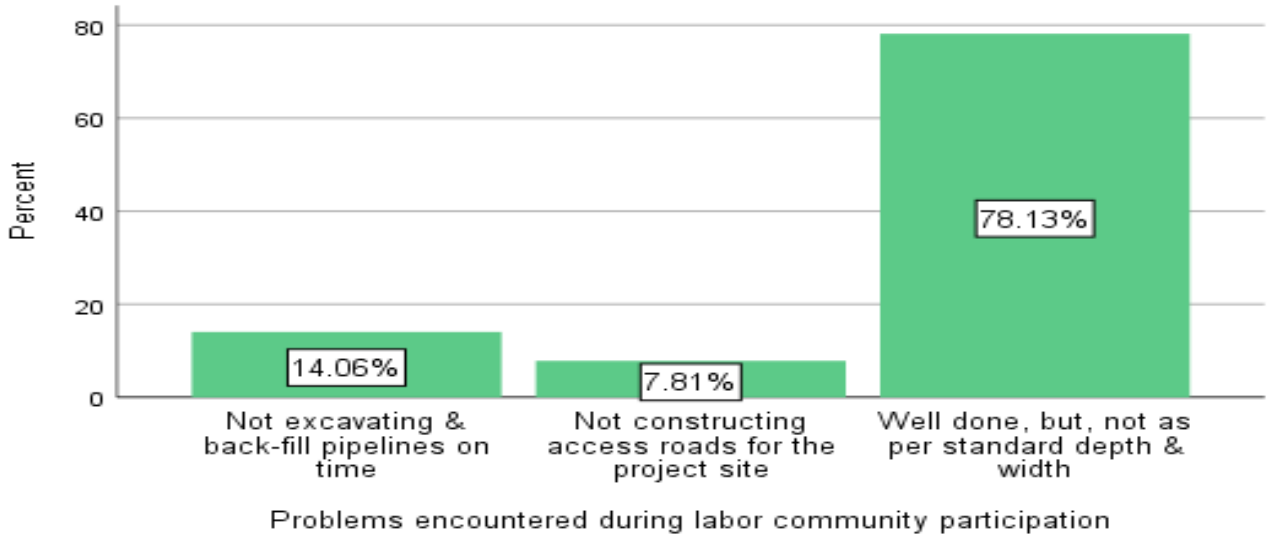


Figure 15 Problems encountered during labor community participation

The results from the above Figure 15 and Table 24 ; showed that, most of the communities participated in excavation & backfilling trench for pipe laying, but, during participation did not considered the standard during construction of water supply project in their locality. The studies had used this situation as great evidence to understand that there were problems of community labor participation during project construction.

4.11. The causes of problems during financial and labor participation

From the focus group, discussion 122(92%) of the participants said that, they were participated in labor whatever was expected from them during water supply construction. They are penalized with the local administrators, if they do not participate with labor. However, in the discussion they assured and clearly mentioned that, in case of financial participation most of the

communities not contribute at all, some of them contributed but not given on time with the required amount to the water committee.

In case of labor participation, the participants told that, their main duties were trench excavation and backfill for pipeline during construction of water supply projects. The local leaders and water committee divided the work to each household but some peoples not excavated and backfill their parts on time, some of them not finished the work as per the required standard depth and width and most of them not participated during preparation of access road to construction site.

During interview and discussion, in their views the participants mentioned some of the main courses for these encountered problems during financial community participations. The points they listed as a reason were the local leaders and water committees not mobilize them properly, they did not have enough information about total amount of the projects budget & percentage required from the community sharing. Some of the community acted did not interest to contribute money for project construction of the area. Some of them poor did not have capacity to pay the sharing amount and most of them no information about when the schedule of cost sharing started and finished. The others told unfair distribution or not considered the capacity of some poor peoples and not considered a good time for asking the community sharing. Some participants mentioned they did not known the rule of government about community sharing and some of them think that the government is supposed to allocate all the required costs for construction of projects.

In addition, the participants mentioned some of the main causes for the encountered problems during labor community participations. Not properly mobilization, absence of equally participating, community not coordinated at the same time and uniform working style, everybody executed with own interest of without the required depth and width, experts not follow up the depth and width of trench during excavation. Some of the community acted did not interest to participate in labor at all, most of them no enough information about the duration and standards of labor work. The others told unfair sharing of work between communities, absence of considering good time for the community labor work. Some participants mentioned they did not known the rule of government about community labor participation and some of them think that the government is supposed to pay finance to the contractor for all works of the projects. All ideas mentioned by the respondents were assumed as the main causes of the encountered

problems during financial and labor community participation. In order to identify the most root cause of the encountered problems, for financial and labor community participation, questionnaires were distributed to 70 respondents at projects site and weredas & zonal Water offices and 64 respond the questionnaires.

4.11.1. Causes of problems during financial participation

Table 25: RII Analysis for the causes of Problems financial community participation

Causes of Problems in financial Community Participation			
Item	**RII**	**Mean**	**Rank**
Knowledge gap on rule of government about community sharing	0.828	4.141	3
Absence of information about project budget & of community sharing	0.90	4.500	1
Mobilization problem	0.88	4.375	2
Information gap on duration of sharing	0.72	3.594	4
Not good time of asking the share	0.56	2.781	6
Sharing % is more to contribute	0.67	3.328	5
Thinking all covered by the government	0.484	2.422	7
Absence of interest to contribute	0.478	2.391	8
No Capacity to pay sharing amount	0.40	2.000	9
Unfair distribution of sharing between community	0.31	1.531	10

Absence of information about the total budgets of projects and the required communities' sharing has been ranked in the first position. Respondents mentioned that they have seen projects were undertaken for the benefit of local people in their locality hence projects should be selected, designed and implemented in consultation and with the help of local people. Project beneficiaries have the right to know and be known about the project related information including allocated budgets and exact sharing of the community. In Jimma Zone, many projects were constructed and community sharing is the prerequisite for implementation of the projects by the donors and governmental criterion. The implementing agents, like local leaders, Zonal &Wereda water offices would directly started projects construction without providing an essential information and detailed discussion with community about the allocated budget of the projects, the sharing percentage expected from the community. However, the leaders were

suddenly asked the community participation after the project construction going on, but the community was confused and not has been ready to contribute the required cost sharing.

Mobilization problem for community participation has been ranked in the second position. The respondents were mentioned in Jimma Zone, all concerned parts of the community not mobilized by the local or concerned governmental bodies during construction of projects in their area. This made all communities could not equally participate and the water committee could not collect the required amount of cost sharing from the community.

Knowledge gap on rule of government about community cost sharing has been ranked in the third position. As it known, community participation has an irreplaceable part in construction of projects, so in different countries including Ethiopia have planned on a large scale in their developmental polices and strategies. Although, government or different donors were constructed more projects in Jimma Zone, the most peoples did not assumed and had not any knowledge about the community participation has put as a rule of government in development plan and most of them assumed all cost of the projects covered by the government or other bodies. The local leaders and the water committee would asked the community cost sharing, the community would not interested and accepted due to thinking all investment cost for projects implementation have been government's duty.

Information gap on duration of cost sharing has been ranked in the fourth position, to affect the cost performance during construction of water supply project and the main causes of problems financial community participation. In Jimma Zone, Most of WASH program projects need a serious community cost sharing during construction of the projects. The local leaders including the water committee of the area and the water office, who leads the projects as a clients, would not properly contacted and informed the exact schedule of community cost sharing. Most of the community did not paid cost sharing on time, some of them too lag and paid after the projects was completed, others paid half of the required cost sharing.

Generally, these situations create a shortage of projects investment budget to pay the contractors' payment or retention cost and affects the total cost performance during construction.

4.11.2. Causes of problems during labor participation

Table 26 RII Analysis for the causes of Problems labor community participation

Causes of Problems in Labor Community Participation			
Item	**RII**	**Mean**	**Rank**
Absence of mobilization during Trench excavation & backfilling	0.884	4.422	1
Absence of community coordination during excavation	0.859	4.297	2
Lack of experts follow up during excavation	0.850	4.250	3
Absence of training about trench standard	0.756	3.781	4
Not understand duration of excavation & backfilling	0.594	2.969	5
Need other option(to excavate & backfilling trench by money)	0.588	2.938	6
Absence of all users participation in trench excavation & backfilling,	0.559	2.797	7
Expect all works as government or other duty	0.444	2.219	8
Absence of Need to excavate & backfill	0.431	2.156	9
Carelessness of the community	0.291	1.453	10

Absence of mobilization during labor community participation has been ranked in the first position. The respondents were mentioned in Jimma Zone, they are seen many water supply projects were constructed, but the local leaders and concerned governmental bodies did not properly mobilize the communities on how and when the community would be actively participated in labor work for pipe trench excavation & backfilling and other activities during construction of water supply projects construction.

Absence of community coordination during pipe trench excavation and backfilling has been ranked on the second position. The findings from focus group discussion and the respondent's idea showed that, in Jimma Zone, when the communities started to labor works participation during pipe trench excavation & backfilling, the works could not performed in a coordinated and united way, but everyone worked in the time they wanted. This situation were became the reason for that all works could not accomplished with in the required standard quality, designed schedule and uniform work performance.

Figure 16 Community not properly coordinated during trench excavation

Lack of expert's follow up during labor community participation in pipe trench excavation has been ranked on third position according to respondents' attitude. If the construction of the water supply projects is to be completed and it is desired to be able to provide the required services to the community, one of the main activities must be lay the pipe within the required standard. According to Design Criteria for water Supply system construction used by Oromia Water & Energy Bureau for Seka town of Jimma Zone and other water supply projects shows, "the depth of the excavated trench determines the quality of pipe lying and the minimum depth of the trench should be 0.8-0.9cm (Ketema Consulting, 2019). According to Ethiopian water policy, "during rural water supply projects the entire pipeline excavation and backfilling have worked with the participation of the user's community, based on this concept, the tranches depth and width should be excavated as per standard and should be completed within the required time". According to the respondents, during labor community participation in pipe trench excavation and backfilling there was no body to monitor the work and professional follow-up. Therefore, in most of the water supply projects construction in Jimma Zone, pipeline excavation and backfilling executed by the community participation could not considered the required standards.

Figure 17 Pipe Trench excavation could not considered standards

Absence of training about pipe trench standard during excavation has been ranked on forth position according to respondents' attitude. During the labor community, participation especially in pipe trench excavation Proper training on the required standards of labor works quality and duration should be given before the works started. But, in Jimma Zone, the concerned bodies from Zonal and wereda water office could not gave training to the local leaders of community as well as the participated community. So that, the local communities participated and conducted the labor works without the required standard qualities and time of completion by its own concepts.

Because of all these situations, the contractor has been hindered from performing pipe lying, pressure-testing work, deploy of construction materials on the site, and properly construction of structures on time as per the schedule. Generally, affects the time performance during water supply project construction.

4.12. Effects of financial and labor participation on projects

This study was to assessed the impact of the financial and labor community participation on cost and time completion during construction of water supply projects, respondents were requested to indicate the financial community participation was affects whether payments of contractors during construction or after completion to pay retention on time in the area. The results in table-27 below show that 71.9% of respondents indicated that the contractors' payment or the retention payments of projects always or often affected by financial contribution of the community during

the construction of water supply projects. While 28.1% of respondents indicated that payments or the retention payments of contractors affected at times or rarely by the financial contribution of the community.

Table 27 Effects of Financial community participation

Did Community financial Contribution affect the Contractor's payment?				
	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Always	24	37.5	37.5	37.5
Often	22	34.4	34.4	71.9
At times	10	15.6	15.6	87.5
Rarely	8	12.5	12.5	100.0
Total	**64**	**100.0**	**100.0**	

In addition, the results in table-28 below show that 73.4% of respondents indicated that the contractors' activity in projects was always or often affected by labor community participation during the construction of water supply projects. While 26.6% of respondents indicated that, the contractor's activities were affected at times or rarely by the labor contribution of the community. Due to the community could not properly participated ,the activities that, the contractors could not lay the pipe on time ; pressure tests could not be conducted on time, due to access absence or improper community's road construction, materials for construction could not be deployed on the site and the structures could not be constructed on time as per the schedule.

Table 28 Effects of Labor community participation

Did Community labor participation affect the Contractors activity?				
	Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Always	23	35.9	35.9	35.9
Often	24	37.5	37.5	73.4
At times	11	17.2	17.2	90.6
Rarely	6	9.4	9.4	100.0
Total	**64**	**100.0**	**100.0**	

4.12.1. Impact of the causes on financial and labor participation

This study was also assessed the impact of the causes of the encountered problems on financial and labor community participation as its specific objectives during construction of medium scale water supply projects, respondents were requested to indicate how the causes of the encountered problems were affects the overall performance of financial and labor community participation in the area.

Table 29: Impacts of the Causes of the Problems on financial Community Participation

Absence of information about project budget & of community sharing				
		Respondent Frequency	Percent	Valid Percent
	Very High Impact	40	**62.5%**	62.5
	Total	64	100.0	100.0
Mobilization problem				
		Respondent Frequency	Percent	Valid Percent
	Very High Impact	36	**56.3%**	56.3
	Total	64	100.0	100.0
Knowledge gap on rule of government about community sharing				
		Respondent Frequency	Percent	Valid Percent
	Very High Impact	24	**37.5%**	37.5
	Total	64	100.0	100.0
Information gap on duration of sharing				
		Respondent Frequency	Percent	Valid Percent
	Very High Impact	21	32.8%	32.8
	Total	64	100.0	100.0

The results in Table-29 above shown, 62.5% of respondents indicated that absence of information about the project's budget & amount of community sharing, 56.3% mobilization problem and 37.5% community's knowledge gap on the rule of government on financial community sharing. As well as 32.8% information gap on cost sharing when to start and finish were taken as very high impacts on financial community participation.

Table 30: Impacts of the Causes of the Problems on Labor Community Participation

Absence of mobilization during Trench excavation & backfilling				
		Respondent Frequency	Percent	Valid Percent
	Very High cause	35	**54.7%**	54.7
	Total	64	100.0	100.0
Absence of community coordination during excavation				
		Respondent Frequency	Percent	Valid Percent
	Very High cause	33	**51.6%**	51.6
	Total	64	100.0	100.0
Lack of experts follow up and support during excavation				
		Respondent Frequency	Percent	Valid Percent
	Very High cause	31	**48.4%**	48.4
	Total	64	100.0	100.0
Absence of training about trench standard				
		Respondent Frequency	Percent	Valid Percent
	Very High cause	23	**35.9%**	35.9
	Total	64	100.0	100.0

In addition, the results in Table-30 above also shown that, 54.7 % absence of mobilization during trench excavation & backfilling, 51.6% absence of community coordination during excavation, 48.4% lack of experts follow up and support during labor works and 35.9% absence of training about pipe trench standard were taken as highly affected the labor community participation.

CHAPTER FIVE

5. Conclusions and recommendations

5.1. Conclusions

The following conclusions are made based on the findings of the study:

1. The financial and labor contribution becomes a very serious problem due to the current financial participation of the community found to be 4.6%, which is one-third of the total expected financial contribution (15%) while the labor participation is also limited to only trench excavation for water supply pipe installation work.

2. The main problems encountered the financial participation were majority of the community were not participated on the financial contribution, others were not contributed the required amount and unable to contribute on time. Moreover, in labor community participation were majority of the community (78.13%) well done trench excavation for water supply pipe installation work but, not as per standard depth & width, the others not excavating & back-fill trench on time and not participating in access roads construction at project site .

3. Absence of information about project budget & community sharing, mobilization problem and community knowledge gap on the rule of government identified as the main causes for financial participation problems. In addition, absence of community mobilization and coordination as well as lack of experts follows up during trench excavation & backfill ranked by the respondents as major causes for labor participation problems.

4. The main impacts financial participation problems created a shortage of projects investment budget to pay the contractors' payment. In addition, the impacts of labor participation problems hindered the contractor from performing pipe lying, pressure-testing work, deploy of construction materials on the site and timely construction of structures as per the schedule.

5.2. Recommendations

Based on the above conclusions the study makes the following recommendations:

1. The current financial and labor participatory approach should be adopted by project implementers from local leaders (zonal & wereda) water offices and properly assure its implementation. This enables them to achieve the project's cost and time performance, develop the community's sense of ownership and increase the involvement of the community to greater extent within all expected participation as per the rule of the government before or during the project construction.
2. The project implementers and leaders (at Zonal and Wereda) water offices should provide on time information to the local community about the detail project information (budget, expected forms of labor participations, project commencement date, completion date, duration and cost to be shared by the community). In addition, the community shall ask project information as well as government's rule of law ahead of the project commencement date.
3. Oromia Water and Energy Bureau shall work with NGOs and institutions to provide trainings to the local leaders and communities on concepts and significance of community participation, project management, government's rule related to community participation and project standards. Moreover, NGOs and institutions shall help government in conducting researches on the challenges faced and community participation alternatives.
4. The Zonal and weredas' water office experts should be closely follow-up and support during labor works of the community.

5.3. Suggestions for Future Research

- Future research should be conducted on:
- Alternatives on community participation on project execution,
- Behaviors of community participation based projects.

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ANNEXES

Annex-A-Sample Respondents

Annex-A-1- Sample households for discussion

Appendix : A- Sample households for Interview and discussion								
S/No	Woredas	Project site	HH Sample Selection					**Yamane Formula**
			Uers	HH	%(133)	HH		Total HH
1	Sokkoru	Baso	2500	109	11.5	15		n=N/(1+(N*(e2)); e=0.8
		Kumbi	3500	152	16	21	36	=950/(1+950*0.0064)
2	Kersa	Merewa	2100	91	9.6	13		=133.180791
		Bala-Wajo	2650	115	12.1	16	29	**Total HH =133**
3	Seka-Chokorsa	Ilke-Sufa	2700	117	12.3	16		
		Lilu-Omoti	2400	104	10.9	15	31	
4	Gomma	Dalecho	4000	174	18.3	25		Sokorru=36 Kersa=29 Seka-Chokorsa=31 Gomma=37
		Gogga	2000	88	9.3	12	37	
			Project Users 950 HH			133		
Source: JZWEO,2022								

Project Selection

Based on Medium scale, beneficiaries less than 5000

Based on Cost between 5,000,000 to 15,000,000

ongoing Projects or constructed between 2015-2022 years=8

Annex-A-2 Sample selection for Interviews(LL,WC.GW) in 4 weredas										
S/No	Wereda	Projects	Year of construction	Construction Budget	Population(2%taken) for Interview					
					WC	LL	GW	Total	25%	Take
1	Gommaa	Dalecho	2012	13,766,151	5	5	3	13	3.25	3
2		Goga	2012	12,574,355	5	5	3	13	3.25	3
3	Kersa	Merewa	2008	570,000	5	5	3	13	3.25	3
4		Bala Wajo	2010	6,250,101	5	5	3	13	3.25	3
5	Sokoru	Baso	2013	7,619,766	5	5	3	13	3.25	3
6		Kumbi	2010	3,665,169	5	5	3	13	3.25	3
7	Seka Chokorsa	Ilke-Sufa	2013	6,407,616	5	5	3	13	3.25	3
8		Lilu Omoti	2010	3,194,861	5	5	3	13	3.25	3
					40	40	24	104	26	24
Total 25% taken for research interview purpose					10	10	6	26		
But propels								**take24**		

Annex-A-3 Sample selection for Questionnaire in 4 weredas

	Weredas Expertise for Quaternary									**Zonal/Client Expertise for Quaternary**					
Were da	Eng.	Con tractor	Geo logist	Socio	Offic & dep. Head	LL	GW	WC	Total	Eng.	Con tractor	Geol ogist	Socio logy	Office & depart. Head	To tal
Gom ma	1	2	1	1	3	1	3	1	13	2	8	3	3	2	**18**
Kersa	1	2	1	1	3	1	3	1	13						
Sokor u	1	2	1	1	3	1	3	1	13						
S/Ch o	1	2	1	1	3	1	3	1	13						
Total	**4**	**8**	**4**	**4**	**12**	**4**	**12**	**4**	**52**						

Quaternaries Total=52+18=70

WC= Water Committee

LL= Local Leaders

GW= Governmental Workers

Annex-B Questionnaires

Jimma University

Dear respondent: This question is designed to gather data about "Assessment of Financial and labor community participation during water supply projects in selected waeredas of Jimma Zone" The information will as a partial fulfillment of master's degree in Construction management and Engineering at Jimma University. The data you provide are believed to have a great value for success of this research. I confirm you that all data will be used for academic purpose and analyzed to anonymous through the authorization of the university. As a result, you will be strictly confidential. Finally, this research is to be evaluated in terms of its contribution to our insight about the impact of financial and labor community participation on cost and labor performance of projects construction of water supply project. Please respond to each question in the appropriate response or filling in the relevant information. You are not required to write your name. I would like to thanks you in advance for your sincere cooperation!

Tamirat Tefera Tadesse Jimma University, CEM

Email:tamirat5395@gmail.com Tele: 0917805395

Survey Questions at level of (Wereda & Zonal)Water office

Part I: Background and Information

.Name of project: _____ Name of Wereda/zone: _____

- **Respondent's Information**
- **Direction:** Please thick (√) the appropriate response in the box provide.

1. Gender: Male ☐ Female ☐
2. Age: 18-30 ☐ 31- 40 ☐ 41-50 ☐ 51-60 ☐ above 61 ☐
3. Educational level: Diploma ☐ BSC Degree ☐ MSC and above ☐
4. Profession:Engineer ☐ Geologist ☐ Sociologist ☐ Survyor ☐ Office/dip. Head ☐
5. Your Experience in water officr (in Years) :Below 1 ☐ 1-5 ☐ -10 ☐ more than 10 ☐
6. Your experience in projects construction work : Below 1 ☐ 1-5 ☐ more than 5 ☐

Part II: Project's completion time

1. What is the status of the project?
   ☐ Complete ☐ Ongoing
2. If completed, was the project completed as per the initial schedule?
   ☐ Yes ☐ No
3. If ongoing, is the project currently on schedule?
   ☐ Yes ☐ No
4. What is the source of the construction budget of the project?
   Government only ☐ NGO only ☐
   Government + Community sharing ☐ NGO+ Community sharing ☐
5. Does the Community participate in financial contribution during construction of the project? ☐ Yes ☐ No
6. If yes, what is the status of community **financial contribution** during construction of this project?
   Very Good ☐ Good ☐ Fair ☐ Bad ☐
7. If fair or bad, what problems encountered during financial community contribution?
   Not contribute on time ☐ Not Contribute the required amount ☐
   Not contribute at all ☐
8. Did /do you believe the budget was/is adequate to complete the project without the financial community participation? ☐ Yes ☐ No
9. Did/ do the community financial participation affects the payments or retentions of contractor's paid on time?
   Always ☐ often ☐ at times ☐ rarely ☐

10. Did / does the contractor has financial difficulties during construction.

Strongly agree ☐ Agree ☐ less agree ☐ dis agree ☐

11. What was / is the influence of timely effect a payment to contractor on the project's completion time?

☐ Much influence ☐ little influence ☐ very little influence ☐ no influence

12. What are the causes of the encountered problems in financial community sharing? Please, select your reasons. You can select more than one.

1=No cause 2=less cause 3= medium cause 4=highly cause 5. Very high cause

(Please, add a tick).

Main Reasons	**Select the reasons**				
	1	2	3	4	5
Absence of interest to contribute money for project construction					
Absence of information of total project budget & % of community sharing					
No capacity to pay sharing amount					
Due to unfair distribution of sharing between the community					
Information gap on duration of sharing					
Knowledge gap on rule of government about community sharing					
Mobilization problem					
Not good time of asking the sharing					
Sharing % is more to contribute					
Thinking other option(It should be covered by government or others)					

13. What is the status of community **labor contribution** during construction of project at this site? Very Good ☐ Good ☐ Fair ☐ Bad ☐

14. What activities does the communities participate in labor during construction?

Excavate pipeline, ☐ Back file pipeline ☐ only excavation & Backfilling ☐

Construct access road of project site ☐ In all activities ☐

If any, specify others_____

15. If fair or bad, what problems encountered during labor community contribution?

- ☐ Not excavate and Backfill pipe line on time
- ☐ Not construct access road for project site
- ☐ Well done But, Not as per standard depth and width

16. What are the impacts of labor community participation of on time performance of project completion time?

- ☐ Contractor cannot be lay pipe,
- ☐ Cannot conduct pipe pressure test,
- ☐ cannot deploy construction materials on time,
- ☐ cannot be construct project structures as per the schedule

If any, specify others _____

17. Please, provide any opinions that you think to reduce the financial community participation problems during construction of water supply project. _____
18. What are the main causes of problems during labor participation you think? Please, select your reason. You can select more than one. (Please, make a tick)
    1=No cause 2=less cause 3= medium cause 4=highly cause 5. Very high cause

Main Reasons	**Select the reason**				
	1	2	3	4	5
Absence of interest to participate in labor contribution					
Absence of coordination between community during labor work					
Absence of participation all community(only focus on minority number)					
Absence of mobilization & Information about duration of labor work					
Absence of training or Knowledge about standard of labor work					
Carelessness during labor work participation					
Expect the work as government or other duty					
Due to unfair distribution of sharing between the community					
Information & knowledge gap about standard and duration of work					
Knowledge gap on rule of government about community labor contribution					
Lack of experts follow up and supports during labor work participation					
Absence of required materials for labor work					
Thinking other option(it prefer to contribute money instead to participate in labor work)					

19. What was / is the influence of labor community participation on the project's completion time? Much influence ☐ little influence ☐ very little influence ☐ no influence ☐

Please, provide any opinions that you think to reduce the financial community participation problems during construction of water supply project. _____

Focus group discussion (FGD) interview

Wereda _____ Project Site_____ Date_____ Time started___ finished_____

1. Are you aware about the water supply project construction in your area?
2. Can you mention the amount of water supply project's budget and types of structures constructed in your area?
3. Did you participate on your part to contribute labor participation during implementation of the water supply project in your village?
4. If Yes, What did you contribute? If no, participated, why?
5. Did you participate on your part to contribute financial during implementation of the water supply project in your village?
6. If not, why did you not participate in financial contribution?
7. What are the main causes of problems?
8. If yes, what extent cost sharing amount do you contribute in cash?
9. Is this your cash contribution the required sharing percentage? If No, why reduced the amount?
10. Is the total cost sharing of your part affecting the project completion budget cost?
11. What did you participate in labor?
12. If you participate, did you finish your sharing responsibility of financial and labor contribution on time?
13. If not, why you did not finished your participate on time?
14. If not take your part in all participation, what are the reasons for failure of you participation?
15. Is there any problem associated with financial and labor participation during implementation of water supply projects?
16. Who responsible to the failure of the time and cost performance during construction of this project?

Table :Sample of Response Analysis

Respondent	What is the status of the project?		Was completed as per the initial schedule?		Is it the ongoing project currently on schedule?		What is the source of the construction budget of the project?			
	Completed	Ongoing	Yes	No	Yes	No	Govrn	NGO	Gov+Comm	NGO+Comm
1	√		√		√		√			
2		√	√		√		√			
3	√			√	√			√		
4		√		√		√		√		
5	√			√		√		√		
6		√		√	√				√	
7	√			√	√		√			
8	√			√		√	√			
9				√		√	√			
10			√		√		√			
11			√			√	√			
12				√		√	√			
13				√		√	√			
14			√			√	√			
15				√		√	√			
16			√		√		√			
17			√		√		√			
18			√		√		√			
19				√		√	√			
20				√		√	√			
21				√		√			√	
22				√		√	√			
23				√		√	√			
24				√	√		√			
25				√	√		√			
26				√	√		√			
27				√	√		√			
28				√	√		√			
29				√		√	√			
30				√		√	√			
31				√		√	√			
32			√			√	√			
33			√			√	√			
34			√			√	√			
35			√			√	√			
36				√		√		√		
37				√		√	√			
38				√		√	√			
39				√		√		√		
40				√	√			√		
41			√		√		√			
42			√		√		√			
43			√		√		√			
44				√	√		√			
45			√		√		√			
46				√	√		√			
47			√			√	√			
48				√		√	√			
49				√		√	√			
50				√		√	√			
51			√			√	√			
52			√			√	√			
53				√		√	√			
54			√		√		√			
55			√		√		√			
56				√	√		√			
57				√	√		√			
58				√	√		√			
59				√		√	√			
60				√		√		√		
61				√		√		√		√
62				√	√					
63				√	√		√			
64				√	√		√			
Total	**5**	**3**	**21**	**43**	**29**	**35**	**53**	**8**	**2**	**1**

Respondent	Did the community Contribute Financial?		If Yes, What is the status of Financial contribution			If Bad, What Problem Encountered in financial contribution				Does affects financial performance			
	Yes	No	VG	G	Fair	Bad	No on time	No amount	No contribute	Always	Often	At a time	Rarely
1	√		√					√				√	
2		√	√					√		√			
3	√			√				√			√		
4		√		√				√			√		
5	√			√				√			√		
6		√		√			√		√			√	
7	√			√			√		√	√			
8		√		√				√		√			
9		√			√			√		√			
10		√			√		√			√			
11		√			√			√		√			
12		√			√			√		√			
13		√			√			√		√			
14		√			√				√	√			
15		√			√				√	√			
16		√			√				√	√			
17		√			√				√	√			
18		√			√				√	√			
19		√				√			√	√			
20		√				√			√	√			
21		√				√			√			√	
22		√				√			√	√			
23		√				√			√	√			
24		√				√				√			
25		√				√				√			
26		√				√				√			
27		√				√				√			
28		√				√				√			
29		√			√				√	√			
30		√			√				√		√		
31		√			√				√		√		
32		√			√				√		√		
33		√			√				√		√		
34		√			√				√		√		
35		√				√			√		√		
36		√				√			√		√		
37		√				√			√		√		
38		√				√			√		√		
39		√				√			√		√		
40		√				√					√		

41		√				√					√		
42		√				√					√		
43		√				√					√		
44		√				√			√			√	
45		√				√			√			√	
46		√				√			√			√	
47		√				√			√				√
48		√				√			√				√
49		√				√			√				√
50		√				√			√				√
51		√				√			√				√
52		√				√			√				√
53		√				√			√				√
54		√				√					√		
55		√				√					√		
56		√				√					√		
57		√				√					√		
58		√				√					√		
59		√				√					√	√	
60		√				√			√				
61		√				√			√				
62		√				√						√	
63		√				√						√	
64		√				√						√	
Total	**4**	**60**	**2**	**6**	**16**	**40**	**29**	**3**	**51**	**24**	**22**	**10**	7

RII Result: What are the causes of the encountered problems during financial community participation?										
Respond	Mobilization problem	Knowledge gap on rule of government	Absence of information on project budget & % of community sharing	Information gap on duration of sharing	Not good time of asking the sharing	Sharing % is more to contribute	Thinking other option (It should be covered by government or others)	Absence of interest to contribute money	No capacity to pay sharing amount	Unfair distribution of sharing between the community
Frequency	**64**	**63**	**62**	**60**	**58**	**56**	**52**	**45**	**35**	**27**
RII	**0.88**	**0.83**	**0.90**	**0.72**	**0.56**	**0.67**	**0.484**	**0.478**	**0.40**	**0.31**
Rank	**2nd**	**3rd**	**1st**	**4th**	**6th**	**5th**	**7th**	**8th**	**9th**	**10th**
1	√	√	√	√	√	√	√	√	√	√
2	√	√	√	√	√	√	√	√	√	√
3	√	√	√	√	√	√	√	√	√	√
4	√	√	√	√	√	√	√	√	√	√
5	√	√	√	√	√	√	√	√	√	√
6	√	√	√	√	√	√	√	√	√	√
7	√	√	√	√	√	√	√	√	√	√
8	√	√	√	√	√	√	√	√	√	√
9	√	√	√	√	√	√	√	√	√	√
10	√	√	√	√	√	√	√	√	√	√
11	√	√	√	√	√	√	√	√	√	√
12	√	√	√	√	√	√	√	√	√	√
13	√	√	√	√	√	√	√	√	√	√
14	√	√	√	√	√	√	√	√	√	√
15	√	√	√	√	√	√	√	√	√	√
16	√	√	√	√	√	√	√	√	√	√
17	√	√	√	√	√	√	√	√	√	√
18	√	√	√	√	√	√	√	√	√	√
19	√	√	√	√	√	√	√	√	√	√
20	√	√	√	√	√	√	√	√	√	√
21	√	√	√	√	√	√	√	√	√	√
22	√	√	√	√	√	√	√	√	√	√
23	√	√	√	√	√	√	√	√	√	√
24	√	√	√	√	√	√	√	√	√	√
25	√	√	√	√	√	√	√	√	√	√
26	√	√	√	√	√	√	√	√	√	√
27	√	√	√	√	√	√	√	√	√	√
28	√	√	√	√	√	√	√	√	√	
29	√	√	√	√	√	√	√	√	√	
30	√	√	√	√	√	√	√	√	√	
31	√	√	√	√	√	√	√	√	√	
32	√	√	√	√	√	√	√	√	√	
33	√	√	√	√	√	√	√	√	√	
34	√	√	√	√	√	√	√	√	√	
35	√	√	√	√	√	√	√	√	√	
36	√	√	√	√	√	√	√	√		
37	√	√	√	√	√	√	√	√		
38	√	√	√	√	√	√	√	√		
39	√	√	√	√	√	√	√	√		
40	√	√	√	√	√	√	√	√		
41	√	√	√	√	√	√	√	√		
42	√	√	√	√	√	√	√	√		
43	√	√	√	√	√	√	√	√		
44	√	√	√	√	√	√	√	√		
45	√	√	√	√	√	√	√	√		
46	√	√	√	√	√	√	√			
47	√	√	√	√	√	√	√			
48	√	√	√	√	√	√	√			
49	√	√	√	√	√	√	√			
50	√	√	√	√	√	√	√			
51	√	√	√	√	√	√	√			

52	√	√	√	√	√	√	√			
53	√	√	√	√	√	√				
54	√	√	√	√	√	√				
55	√	√	√	√	√	√				
56	√	√	√	√	√	√				
57	√	√	√	√	√					
58	√	√	√	√	√					
59	√	√	√	√						
60	√	√	√	√						
61	√	√	√							
62	√	√	√							
63	√	√								
64	√									
Total	**64**	**63**	62	60	58	56	52	45	35	27

Table: SPSS: Influence of the Causes of the Problems on financial Community Participation

1.Absence of information about project budget & of community sharing					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less Cause	1	1.6	1.6	1.6
	Medium Cause	6	9.4	9.4	10.9
	High Cause	17	26.6	26.6	37.5
	Very High Cause	**40**	**62.5**	**62.5**	**100.0**
	Total	64	100.0	100.0	
2.Mobilization problem					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Cause	2	3.1	3.1	3.1
	Less Cause	2	3.1	3.1	6.3
	Medium Cause	2	3.1	3.1	9.4
	High Cause	22	34.4	34.4	43.8
	Very High Cause	**36**	**56.3**	**56.3**	**100.0**
	Total	64	100.0	100.0	
3.Knowledge gap on rule of government about community sharing					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Cause	2	3.1	3.1	3.1
	Less Cause	1	1.6	1.6	4.7
	Medium Cause	8	12.5	12.5	17.2
	High Cause	29	45.3	45.3	62.5
	Very High Cause	**24**	**37.5**	**37.5**	**100.0**
	Total	64	100.0	100.0	
4.Information gap on duration of sharing					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Cause	8	12.5	12.5	12.5
	Less Cause	7	10.9	10.9	23.4
	Medium Cause	9	14.1	14.1	37.5
	High Cause	19	29.7	29.7	67.2
	Very High Cause	**21**	**32.8**	**32.8**	**100.0**
	Total	64	100.0	100.0	

Table: SPSS: Impact of the Causes of the Problems on Labor Community Participation

bilization during Trench excavation & backfilling					
		Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less Cause	2	3.1	3.1	3.1
	Medium cause	4	6.3	6.3	9.4
	High Cause	23	35.9	35.9	45.3
	Very High cause	35	54.7	54.7	100.0
	Total	64	100.0	100.0	
Absence of community coordination during excavation					
		Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Cause	1	1.6	1.6	1.6
	Less Cause	2	3.1	3.1	4.7
	Medium cause	7	10.9	10.9	15.6
	High Cause	21	32.8	32.8	48.4
	Very High cause	33	51.6	51.6	100.0
	Total	64	100.0	100.0	
Lack of experts follow up during excavation					
		Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less Cause	2	3.1	3.1	3.1
	Medium cause	11	17.2	17.2	20.3
	High Cause	20	31.3	31.3	51.6
	Very High cause	31	48.4	48.4	100.0
	Total	64	100.0	100.0	
Absence of training about trench standard					
		Respondent Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Cause	5	7.8	7.8	7.8
	Less Cause	7	10.9	10.9	18.8
	Medium cause	8	12.5	12.5	31.3
	High Cause	21	32.8	32.8	64.1
	Very High cause	23	35.9	35.9	100.0
	Total	64	100.0	100.0	

ble: JIMMA ZONE WATER AND ENERGY OFFICE, DATA OF TOTAL CONSTRUCTED WATER SCHEMES

	Wereda	Total Schemes			Functional rate (%)
		Fun	N/fun	Total	
1	Botor Xollay	208	28	236	11.86
2	Chora Botor	375	152	527	28.84
3	Dedo	1151	1	1152	0.09
4	Gera	969	0	969	-
5	Gomma	1409	2	1411	0.14
6	Gumay	698	35	733	4.77
7	Limmu Kosa	1093	24	1117	2.15
8	Limmu Seka	719	59	778	7.58
9	Manna	979	33	1012	3.26
10	Mancho	934	0	934	-
11	Nonno-Benja	479	0	479	-
12	Omo Beyyam	879	26	905	2.87
13	Omo Nada	746	127	873	14.55
14	Qarsa	1571	9	1580	0.57
15	Seka Chekorsa	767	205	972	21.09
16	Setema	934	101	1035	9.76
17	Shabe Sombo	664	0	664	-
18	Sigimo	1077	0	1077	-
19	Sokorru	746	38	784	4.85
20	Tiro Afeta	927	55	982	5.60
21	Limmu Gennet	3	0	3	-
22	Aggaro Town	2	3	5	60.00
Jimma Zone		**17,330**	**898**	**18,228**	**4.93**

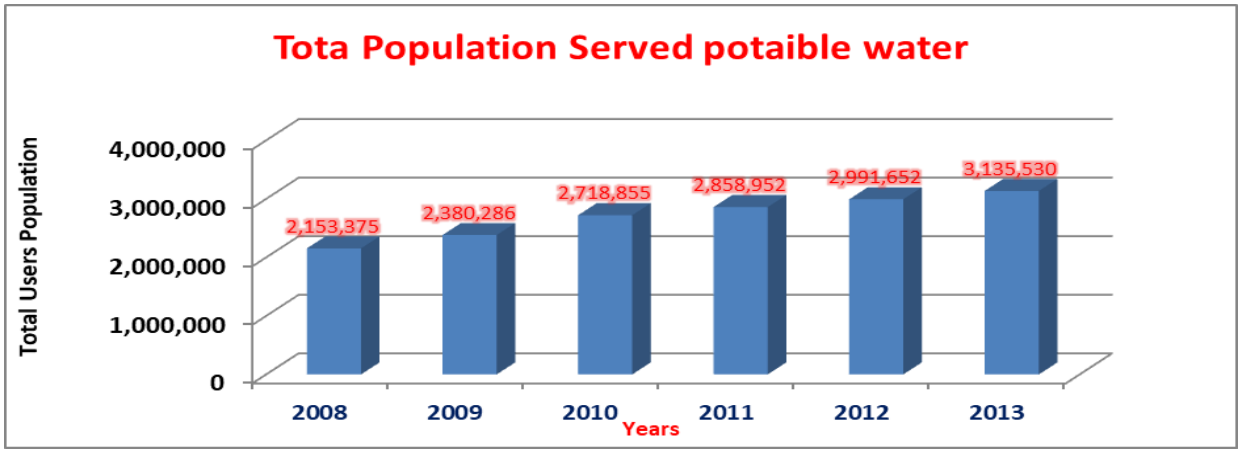
SOURCE: JIMMA ZONE WATER & ENERGY OFFICE;(Mar. 2012)

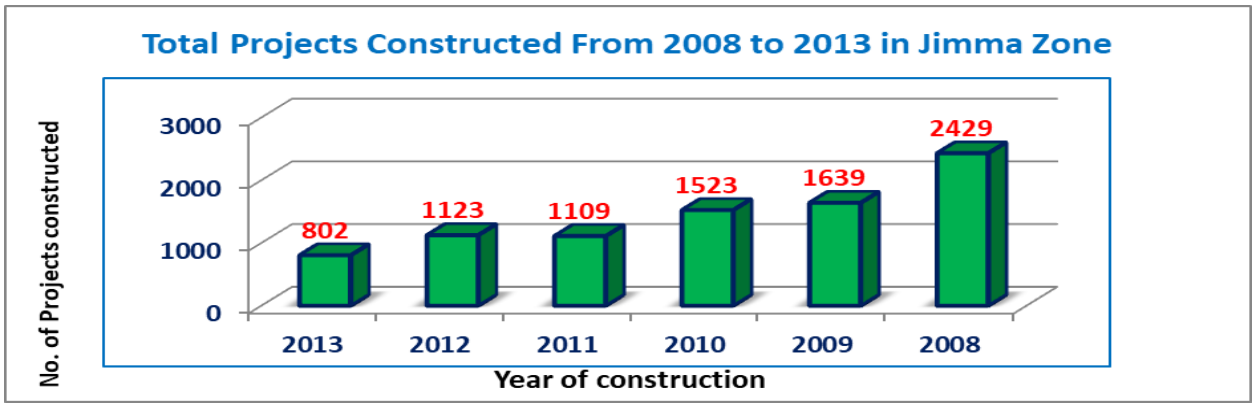
JIMMA ZONE WATER AND ENERGY OFFICE

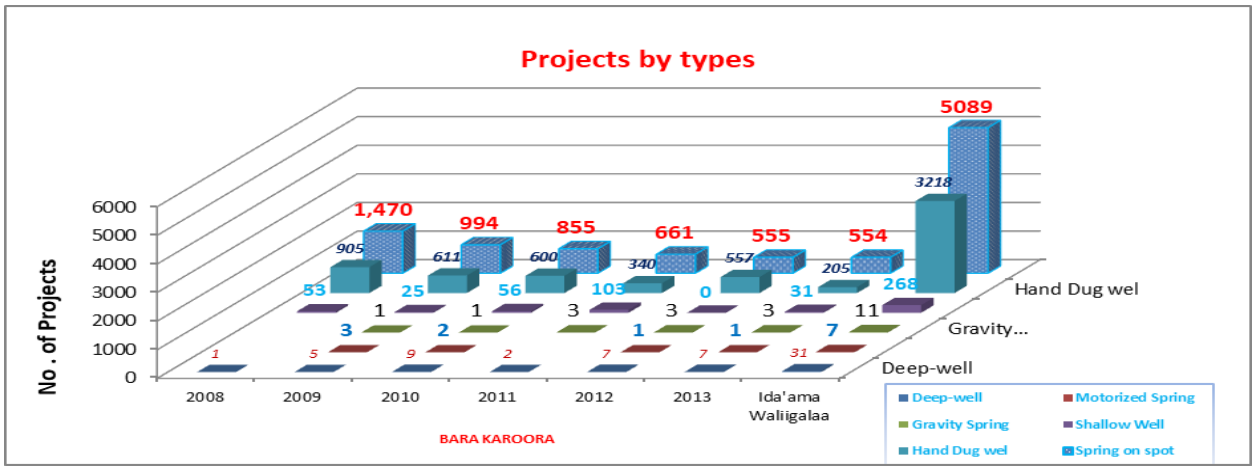
ACCESS TO POTABLE WATER SUPPLY BY WOREDA AT THE END January 2/2014 E.C.(RURAL + URBAN) (In Study Weredas)

S. N	Woreda	Total population of the woreda At end Of 2014 E.C			Additional Population Supplied with Palatable Water up to quarter II 2014			Total Population Supplied With potable water Upto2014 E.C.			Potable Water supply Coverage January 2/2014		
		Rural	Urban	Total	Rural	Urbn	Total	Rural	Urban	Total	Rur	Urbn	Total
1	Gomma	233,467	22,946	256,413	3,320		3,320	209,290	7,927	217,217	90	34.55	84.7
2	Qarsa	229,105	9,751	238,856	850		850	202,691	5,255	207,946	88	53.89	87.1
3	Seka Chekorsa	287,972	12,631	300,603	420		420	220,455	6,911	227,366	77	54.71	75.6
4	Sokorru	177,016	22,864	199,881	850		850	141,985	7,166	149,151	80	31.34	74.6
5	Jimma Zone	3,273,891	570,165	3,844,056	35,850	0	35,850	2,778,391	392,989	3,171,380	84.9	68.9	82.5

SOURCE: JIMMA ZONE WATER & ENERGY OFFICE; (March 2022)







Source: Jimma Zone Water & Energy Office Served Population and Projects

Jimma Zone Water & Energy Office Govenmental Water Supply Projecst Construction situational reports (year 2012)

S/No	Name of Projects	Name of Wereda	Source of bagdet	Allocated Badget (Government Share)	Year of Coomicement	Year of Completed	As per agreement (planed completion days)	Actual completion date of the project (Days)	More additional Extended days	Main problems shown during construction	Users Community Sharing during Construction of Projects					
											Cost	Treanch exacvation	back filling	Accsess road Construction	As per Agreement Expeted Average Finishing dates of treanch	Average Acutal completion date of Treanch
1	Sokoru Town project	Sokoru	Government	9,024,401.00	2001	2002	120	more than 360	240	Contractor	No	No	No	No	Less than 60days	more than 180 days
2	Choche Town Project	Gomma	Government	1,355,000.00	2002	2002	120	more than 180	240	Treach Excav. + Supply	No	Yes	yes	Yes	Less than 60days	more than 180 days
3	Chira Town Project	Gera	Government	2,200,000.00	2003	2004	120	more than 360	240	Supply	No	No	No	No	Less than 60days	more than 180 days
4	Omo Beko Project	Gomma	Government	1,169,462.61	2005	2006	120	more than 360	240	Treach Excav + Supply	No	Yes	yes	Yes	Less than 60days	more than 180 days
5	Geba-Arbi Project	Gomma	Government	839,880.89	2005	2006	120	more than 360	240	Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
6	Bulbulo Project	Gomma	Government	1,523,918.99	2005	2006	120	more than 360	240	Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
7	Kersu Project	Seka-Chokorsa	Government	1,502,402.50	2005	2006	120	more than 360	240	Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
8	Bore Project	Sokoru	Government	3,416,440.17	2005	2006	120	more than 360	240	Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
9	Daka-Gengeleta project	Sokoru	Government	2,069,381.92	2005	2007	120	more than 360	240	Contra + Treach Excavation	No	Yes	yes	Yes	Less than 60days	more than 180 days
10	Kuda-Kunacho Project	Gumay	Government	1,092,697.93	2005	2006	120	more than 360	240	Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
11	Gesecha project	Setema	Government	734,579.62	2005	2006	120	more than 360	240	Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
12	Kara-Telko Project	Chora Botor	Government	1,205,707.86	2005	2006	120	more than 360	240	Contra. + Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
13	Doyo-Kobota Project	Sokorru	Government	1,020,328.00	2007	2009	120	more than 360	240	Contra. + Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
14	2nd round koma project	Limu-Seka	Government	1,062,440.00	2007	2009	120	more than 360	240	Contra. + Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
15	Kishe-Posta bet project	Shebe-Sombo	Government	2,945,974.00	2007	2008	120	more than 360	240	Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
16	2nd round Haro project	Mana	Government	1,773,572.00	2007	2008	120	more than 360	240	Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
17	Yatu-Dheyi Project	Botor-Tolay	Government	1,325,106.00	2008	2009	120	more than 360	240	Treach Excav.+ Supply	No	Yes	yes	Yes	Less than 60days	more than 180 days
18	Merewa project	Kersa	Government	632,298	2008	2009	120	more than 360	240	Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
19	Chafeta Project	Setema	Government	1,452,421.00	2008	2009	120	more than 360	240	Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days
20	Micha project	Tiro-Afeta	Government	780,262.00	2008	2009	120	more than 360	240	Treach Excav.	No	Yes	yes	Yes	Less than 60days	more than 180 days

Godina Jimmaattii Xinxaala Haala Ijaarsa Projaktoota Bishaan Dhugaatii Mootummaa Bara hanga 2012 ijaaraman keessaa

Lakk	Maqaa Projelii	Maqaa Aanaa	Madda Bajajtaa	Baajata Ramadamee (Mootummaa)	Bara jalqabee	Bara Xumuramee	Waliigaltee guyyaa xumuramuu qabuu	Guyyaa itti xumuramee (Guyyaadhaan)	Guyya a dabalat ee	Rakkoo ljoo yeroo ijaarsaa mul'atan	Qooda Hirmaannaa Ummataa Ijaarsa keessatti iraa egamuu					
											ejar.Callaa	Bo'oo Qotuu	Biyyee deebisiu	daandii keessoo	Tilmaama Ummannii xumuruu qabuu (Guyyaa)	Tilmaama yeroo qabatamaan fixee
1	Projectii M/Sokkorru	Sokkorru	Motummaa	9,024,401.00	2001	2002	120	360 olii	240	Kontira.	lakii	lakii	lakii	lakii	Guyyaa 60 gadii	Guyyaa 180 olii
2	Projectii M/Coocee	Gommaa	Motummaa	1,355,000.00	2002	2002	120	180 olii	240	Bo'oo. + Dhiyessii	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
3	Projectii M/Ciiraa	Geeraa	Motummaa	2,200,000.00	2003	2004	120	360 olii	240	Dhiyessii	lakii	lakii	lakii	lakii	Guyyaa 60 gadii	Guyyaa 180 olii
4	Projaktii Omo-Boqqoo	Gommaa	Motummaa	1,169,462.61	2005	2006	120	361 olii	240	Bo'oo. + Dhiyessii	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
5	Projaktii Gabaa-Arbii	Gommaa	Motummaa	839,880.89	2005	2006	120	362 olii	240	Bo'oo Qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
6	Projaktii Bulbuloo	Gommaa	Motummaa	1,523,918.99	2005	2006	120	363 olii	240	Bo'oo Qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
7	Projaktii Qarsuu	Saqqa Coqorsaa	Motummaa	1,502,402.50	2005	2006	120	364 olii	240	Bo'oo Qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
8	Projaktii Boree	Sokkorru	Motummaa	3,416,440.17	2005	2006	120	365 olii	240	Bo'oo Qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
9	Projaktii Daaka-Gangaleta	Sokkorru	Motummaa	2,069,381.92	2005	2007	120	366 olii	240	Kontra. + Bo'o qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
10	Projaktii Qudaa-Qunaacoo	Gumaay	Motummaa	1,092,697.93	2005	2006	120	367 olii	240	Bo'oo Qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
11	Projaktii Geeseechaa	Saxxammaa	Motummaa	734,579.62	2005	2006	120	368 olii	240	Bo'oo Qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
12	Projaktii Kaarraa-Telkoo	Cooraa-Botor	Motummaa	1,205,707.86	2005	2006	120	369 olii	240	Kontra. + Bo'o qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
13	Proj.Doyo-Kobota	Sokkorru	Motummaa	1,020,328.00	2007	2009	120	370 olii	240	Kontra. + Bo'o qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
14	Proj.Koma=marsaa 2ffaa	Limmu-Saqqaa	Motummaa	1,062,440.00	2007	2009	120	371 olii	240	Kontra. + Bo'o qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
15	Proj.Kishe-Posta Bet	Shabee-Sombo	Motummaa	2,945,974.00	2007	2008	120	372 olii	240	Bo'oo Qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
16	Proj.Haro=marsaa 2ffaa	Manaa	Motummaa	1,773,572.00	2007	2008	120	373 olii	240	Bo'oo Qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
17	Proj.Yatu-Dhayi	B/Xolaay	Motummaa	1,325,106.00	2008	2009	120	374 olii	240	Bo'oo. + Dhiyessii	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
18	Proj.Marawwaa	Qarsaa	Motummaa	632,298	2008	2009	120	375 olii	240	Bo'oo Qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
19	Proj.Caaffetaa	Saxxamaa	Motummaa	1,452,421.00	2008	2009	120	376 olii	240	Bo'oo Qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii
20	Proj.Miccaa	Xiroo-Afataa	Motummaa	780,262.00	2008	2009	120	377 olii	240	Bo'oo Qotuu	lakii	Eyyee	Eyyee	Eyyee	Guyyaa 60 gadii	Guyyaa 180 olii

Jimma Zone Water & Energy Office Govenmental Water Supply Projecst Construction situational reports (year 2012)

Lakk	Name of Projects	Name of Wereda	Source of bagdet	Allocated Project Budget (NGO+Community) Share)	Year of Coomicement	Year of Completed	As per agreement (planed completion days)	Actual complation date of the project (Days)	More additional Extended days	Main problems shown during construction	Qooda Himaannaa Ummataa Ijaarsa keessatti irraa eganuu: Community Share Required 5% Maching Fund	Payment paied as per reqoured from the community	Treanch excavation	back filling	Acsess road Construction	As per Agreement Expeted Average Finishing dates of treanch	Avarage Acutal completion date of Treanch
1	Koma Project	Limmu-Kossaa	DFID	936,478.40	2001	2002	120	more than 360	240	Treach Excav.	46,823.92	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
2	Geshe-Luchine Project	Seka-Chokorsa	DFID	824,325.80	2001	2002	120	more than 360	240	Treach Excav.	41,216.29	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
3	Sigimo Town Project	Sigimoo	UNCEF	1,343,299.60	2002	2003	120	more than 360	240	Treach Excav.	67,164.98	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
4	Wayu Town Project	Chora-Botor	DFID	2,122,421.00	2002	2003	120	more than 360	240	Treach Excav.	106,121.05	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
5	Limu-Genet Towan Project	Limmu-Kossaa	Mo. Xaalyan	23,000,000.00	2003	2004	120	more than 360	240		2,300,000.00	0.00	No	No	No	-	-
6	Oba-Toli Project	Gera	AfDB	981,055.70	2003	2004	120	more than 360	240	Contra + Treach Excavation	49,052.79	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
7	Yukuro Project	Gera	AfDB	904,921.60	2003	2004	120	more than 360	240	Treach Excav.	45,246.08	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
8	Omo-Guride Project	Gomma	AfDB	1,599,167.00	2003	2004	120	more than 360	240	Contra + Treach Excavation	79,958.35	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
9	Omo-Funtule Project	Gomma	AfDB	1,094,601.00	2003	2004	120	more than 360	240	Contra + Treach Excavation	54,730.05	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
10	Raga-Siba Project	Nedhi-Gibe	AfDB	1,806,685.00	2003	2004	120	more than 360	240	Contra + Treach Excavation	90,334.25	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
11	Gebera Project	Nedhi-Gibe	AfDB	1,663,190.00	2003	2004	120	more than 360	240	Contra + Treach Excavation	83,159.50	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
12	Sadi-Loya-I Project	Gera	AfDB	996,069.90	2003	2004	120	more than 360	240	Contra + Treach Excavation	49,803.50	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
13	Setema Project	Setema	DFID	1,292,867.00	2004	2005	120	more than 360	240	Treach Excav.	64,643.35	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
14	Addis-Limat Project	Limmu-Kossaa	DFID	1,803,543.00	2004	2005	120	more than 360	240	Treach Excav.	90,177.15	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
15	Bilida Project	Mana	AfDB	3,249,283.00	2004	2005	120	more than 360	240	Treach Excav.	162,464.15	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
16	Sombo-Mana Project	Mana	AfDB	1,901,663.00	2004	2005	120	more than 360	240	Treach Excav.	95,083.15	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
17	Meteso Project	Dedo	AfDB	1,434,431.00	2004	2005	120	more than 360	240	Treach Excav.	71,721.55	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
18	Sheki Town Project	Dedo	AfDB	2,811,428.00	2004	2005	120	more than 360	240	Contra + Treach Excavation	140,571.40	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
19	Kusaye Project	Dedo	AfDB	1,908,908.00	2004	2005	120	more than 360	240	Contra + Treach Excavation	95,445.40	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
20	Beshasha Town Project	Goma	AfDB	2,815,098.00	2004	2005	120	more than 360	240	Contra + Treach Excavation	140,754.90	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
21	Secha Project	Gera	AfDB	1,731,176.00	2004	2005	120	more than 360	240	Contra + Treach Excavation	86,558.80	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
22	Welo-Sefer Project	Mana	AfDB	1,069,515.00	2004	2005	120	more than 360	240	Contra + Treach Excavation	53,475.75	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
23	Yebu Town-II Project	Mana	AfDB	2,476,425.00	2004	2005	120	more than 360	240	Contra + Treach Excavation	123,821.25	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
24	Meche Project	Gomma	AfDB	3,500,000.00	2005	2006	120	more than 360	240	Contra + Treach Excavation	175,000.00	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
25	Wokito Project	Seka-Chokorsa	WaSH	1,296,023.00	2007	2008	120	more than 360	240	Contra + Treach Excavation	64,801.15	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
26	Gebera Project	Sokorru	WaSH	1,910,467.00	2008	2010	120	more than 360	240	Contra + Treach Excavation	95,523.35	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days
27	Kumbi Project	Sokorru	WaSH	480,588.00	2010	2011	120	more than 360	240	Contra + Treach Excavation	24,029.40	0.00	Yes	Yes	Yes	Less than 60days	more than 180 days

Identified by Age From 0 to 80+ and Gender (Male & Female) Year 2021/201 E.C							
Lakk.	Aanaa	Jimma Zone					
		Male			Female		Total
		Age	2013		Age	2013	2013
1	Seka-Chokorsa Wereda	0 to 80+	152,282		0 to 80+	118,944	271,226
2	Kersa Wereda	0 to 80+	121,469		0 to 80+	118,944	240,413
3	Sokorruu Wereda	0 to 80+	100,946		0 to 80+	100,010	200,956
4	Gomma Wereda	0 to 80+	158,090		0 to 80+	152,704	310,794

Table-4- CAS Population Data for 2021 Ethiopian Notional Election purpose, in Jimma Zone, Seka,Kersa,Sokoru & Gomma Weredas,(Source: Jimma Zone Administration, year, 2021)