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COLLEGE OF SOCIAL SCIENCE AND HUMANITIES

DEPARTMENT OF SOCIOLOGY

**THE ROLE OF COMMUNITY PARTICIPATION ON SOLID WASTE
MANAGEMENT PRACTICES IN GURAGE ZONE GUBRE SUB CITY**

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The return research term has conducted a senior essay on 'an assessment on the role of community participation on solid waste management practices in Gubre subcity' prepared by Habib Mohammedhusen and we recommend and it is accepted as partial fulfilment of the requirements for the BA Degree of Arts in Sociology.

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LIST OF ACRONYMS

CBOs: Community based organizations

CSOs: Civil society organizations

NGOs: Non-governmental organizations

SNNPR: Southern Nation Nationalities and Peoples Region

SWM: Solid waste management

ABSTRACT

The main objective of this study was to assess the role of community participation on solid waste management practices in Gubre sub city. Cross-sectional and Descriptive research design was employed to answer basic research questions and there by achieve the intended objective of the study. The target population in this research were include household heads, municipality officials, health workers and sanitation (purification) experts working within of the sample sub-city of this study area. Totally (93) representative participants were selected using different sampling methods (systematic simple random, availability, and purposive sampling methods). The Gubre sub-city has (1246 households: one healthy centre and one municipality). After determining the total population of the household, (89) heads of households of which 42 male and 47 female were selected by using systematic sampling method randomly. Besides (2) Municipality officials (head/ Mayer and vice head/ Deputy Mayer) were selected using availability sampling method purposively, and (2) representatives of health experts were selected by using purposive sampling method. Self-administer closed-ended, four-point and five-point liker scale questionnaire was prepared and distributed for 89 household representatives and filled and returned for analysis. In-depth interview tool was conducted to gather necessary data from (4) potential participants of this study. The data obtained from these participants presented to analyzed and interpreted using both quantitative and qualitative methods. Finally, the findings of this study reveal that the existing level of community awareness on many areas of solid waste management practices were found at very low level; there was also lack of commitments, poor encouragement supports were made by concerned bodies to facilitate community participation on solid waste management practice; and due to these reasons, the situation of community participation on Solid Waste Management Practices within the sample sub-city was low. Thus, local concerned bodies need to facilitate individuals, NGOs, private sectors, CBOs, and others to enhance the contributions of the community in Solid Waste Management Practices of this study area.

Key words: *Solid ,waste. Community, awareness, practices*

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

Solid waste management is a complex task which depends as much upon organization and cooperation between households, communities, private enterprises and municipal authorities as it does upon the selection and application of appropriate technical solutions for waste collection, transfer, recycling and disposal (Wehrle, 2016). Solid waste is also defined as any garbage, refuse, sludge, and other discarded solid materials resulting from industrial, commercial, agricultural operations, and community activities, but does not include dissolved materials (U.S. Code of Federal Regulations, 1995 cited in Samuel, 2006,p.5, and recited in Solomon, 2011).

Municipal solid waste (MSW) is also refers to materials discarded in urban areas for which municipalities are usually responsible for collection, transportation, and final disposal while municipal solid waste management is an activity of planning and implementation of solid waste management components such as collection, transfer and transportation, recycling, resource recovery, and disposal MSW under jurisdiction of local government (Solomon, 2011).

Currently, the rapid expansion of the global urbanization, among other things, is increasing the volume of solid waste throughout the world. According to reviewed literature, it is estimated that about 1.3 billion metric tons of municipal solid waste was generated globally in 1990 (Buenrostro, 2011; cited in Marietha Ndele Mlozi, 2011). In developing countries it is estimated that one to two thirds of the solid waste generated in most urban areas is not collected (Zurbrugg, 2003; cited in Marietha Ndele Mlozi, 2011). In developing countries, the uncollected waste which is often mixed with human excreta is dumped indiscriminately in streets and in drains, which is contributing to spread of diseases (Marietha Ndele Mlozi,2011).

As a result, solid waste management, among others, is considered to be the most serious environmental problems that confronting the most urban areas of the developing countries (Sinha and , 2000a; cited in Marietha Ndele Mlozi,2011). Moreover, Marietha Ndele Mlozi (2011) states that improperly managed solid waste creates favorable breeding ground for vermin and insects and causes a serious risk of communicable diseases. In addition, solid waste in wasterways causes pollution of the waster as well as blocking the flow of waster mainly during the seasons of heavy rains when flooding increases the amount of waster flow.In the

last decade, numerous research works related to SWMPs have been under taken by different authors in different social settings or geographical areas within different regional administrations in Ethiopia. For example, Solomon Cheru (2011) has investigated households' solid waste generation rate, physical composition and management practices, the then status and spatial coverage of MSWM and institutional arrangement and capacity of MSWM service delivery of the Dese town of Amara Regional State of Ethiopia. According this study, the major shortcomings were include existence of very limited participation and contribution of stakeholders, unsatisfactory participation of communities, no collaboration of various CBOs and NGOs, lack of private sector involvement, very limited contribution of MSSE, poor households' solid waste management practices resulted from improper handling of solid waste storage materials, low level of solid waste separation and resource recovery activities, and illegal solid waste disposal system (Solomon Cheru, 2011).

Effective waste management practice is essential in identification of potential resource recovery activities, facilitation of collection, transportation and processing equipment, taking essential health, aesthetic and environmental precautions, and for monitoring changes in waste composition over time and improving waste management system (Yohanis Birhanu and Genemo Berisa. 2015). Therefore, to bring all of these outcomes enhancing and facilitating the roles of local, national, regional and international communities are assumed to be a cornerstone for successful planning and implementation of solid waste management practices.

When citizens are given education or awareness about waste, they turn to be informed as well as know the essence of waste management which will make them responsible. Keeping them informed or educated means improving their knowledge in waste management which will call for participation in decision making. The community's participation in waste management activities from decision making, structural reforms among others, will increase their sense of belonging and ownership which can bring about improvement rather than blaming, McAllister (2015), Urban areas of many developing and least developing countries faced a lack of innovative and effective approaches to manage waste, resulted increase in environmental and health hazards. A community-based collection system has been developed that has effectively contributed to the urban environmental improvement in a City (Mohit 2000).

Community participation can play significant role as strategy in social developments, especially in the field of human settlements. In solid waste management activities community and stakeholders, participation can be define as individuals or organization with an appropriate

interest towards achieving the goal of minimizing solid waste disposal practices according to its mechanisms (Temesgen Lombe Same, 2017). Moreover, community participation is perceived as a component that provides favored condition for effective urban solid waste management and is an indispensable in the accomplishment of the better services deliverance (viz: in McKay, Mbanda, and Lawton, 2015).

Despite procedural mechanisms put in place to cope with the problem of solid waste management practice in the urban areas of the country from the government side, and many research findings documented from educators side, the matter of solid waste disposal seems far from being resolved since most of urban areas in Ethiopia suffer from ineffectiveness and inefficiency of solid waste management practices mainly due to shortage of humans, materials, financial resources as well as poor capacity of responsible government bodies, weak integrity among different stake holders, poor community awareness and very limited community involvements (Tesema, 2010). Furthermore, lack of data on waste generation, of recycling activities, lack of proper transport schedules, a poor sanitary landfill, and a low level of commitments among local residents and government officials are also another main obstacles hindering effective solid waste management practices (Zelke Zewd, 2005).

Hence, waste management practice which include community participation and do not require high technology and inappropriate machinery might prove to be sustainable at the community level, since income generating waste management systems can be maintained by low income communities. Even though solid waste management is one of the critical community problems in sample sub city, there was no study conducted to investigate the relationship between solid waste management practices and the role of community participation tackle the problem related to solid waste management practices in Gubre sub city. Therefore, the intention of the study that initiated the student research to conduct this study was to investigate the role of community participation on solid waste management practice in one sample selected sub-city from among the grass-root level town administrations, in the Gubre Sub-city of Gurage Zone in SNNP of Ethiopia.

1.2. Statement of the Problem

Ethiopian government had structured a process where SMEs and privately owned sanitation companies work with the government's sanitation entities in line with the solid waste management proclamation No. 513; Released in February of 2007. The proclamation's main goal is to increase community participation stating that it is essential to promote community

participation in order to prevent the adverse effects and to enhance the benefits resulting from solid wastes; and solid waste management action plans designed by, and implemented at the lowest administrative units of urban administrations can ensure community participation (Proclamation No. 513, 2007).

In addition to the efforts made by the government, numerous research works related to SWMPs have been undertaken by different authors since a decade (Melaku Tegegn Kassa, 2008; Solomon Cheru, 2011; Yohanis Birhanu and Genemo Berisa, 2015; Getinet Zemena, 2016; Temesgen Lombe Same, 2017; Endalkachew Abraham, 2018). Amongst these studies Yohanis Birhanu and Genemo Berisa (2015) carried out relevant research entitled "Assessment of Solid Waste Management Practices and the Role of Public Participation" in particular study area, Jigjiga town of Somali Regional State, Ethiopia. In case of Southern Ethiopia, Temesgen Lombe Same (2017) has carried out relevant study on the topic "Practices and challenges of solid waste management" in Hosanna town in SNNPR of Ethiopia. However, many of these studies were carried out at the different regional city administrative levels, adequate and comprehensive relevant studies were not previously carried out at the levels of grass-root sub-city administrative within Ethiopia. Moreover, areas of the investigations of most of the studies conducted did not emphasize on the role of community participation in solid waste management practices. To fill this gap, it is essential to assess the role of community participation on solid waste management practice which can provide durable solutions for the various obstacles hindering effective solid waste management practice at the grass-root sub-city administrative levels by exploring the existing level of community awareness about solid waste management practices, by examining the encouragement supports made by respective responsible bodies to enhance community involvement in solid waste management practices and the current status of community involvement in solid waste management practice the current status of community involvement in solid waste management practice. Therefore, this study was conducted to investigate the role of community participation on solid waste management practice in the Gubre sub-city.

1.3. Objectives of the Study

1.3.1. General objective

The general objective of this study was to assess the role of community participation on solid waste management practices in Gubre sub city.

1.3.2. Specific objectives

1. To assess the existing level of community awareness about solid waste management practices
2. To explore the encouragement supports made by different concerned bodies to enhance community involvement in solid waste management practices
3. To examine the current status of community involvement in solid waste management practice

1.4. Research Question

Based on the above specific objectives, the proposed study seek to answer the following questions

1. What is the existing level of community awareness about solid waste management practices?
2. To what extent concerned bodies provide encouragement supports to enhance community involvement in solid waste management practices?
4. What are the current statuses of community involvement in solid waste management practice?

1.5. Significances of the study

According to Locke, Silverman and Spirduso (1998) in Papakinyi Lesayepiye Kaai (2016) the significance of the study seeks to describe the purpose of study and how the study will contribute to the research world in an attempt to improve current practices, and the statement should provide a bird's eye-view or synopsis of the overall purpose of the study. Therefore, based on this fact, the findings of this study can help researchers, and other policy makers work on the area of solid waste management practices. As a result, the findings this study is significant in:-

- Informing different local government officials about the current status of solid waste management practices in Gubre sub city which serves them as inputs in their efforts to make future planning and improvements.
- Creating awareness to local community members including living community, the practitioners of CSOs, community based organizing, and private sectors to effectively manage solid waste disposition and to facilitate the role of community involvements in solid waste management practices in case of the sample study area.

- Helping as spring board for discussions and serving as preliminary information to conduct further in depth studies in the similar area.

1.6. Scope of the Study

Geographically, the study was delimited to a sample of one of the urban areas of Gurage zone, in the region of SNNPs of Ethiopia, where namely known as Gubre sub city. Conceptually, the study was also focused on the role of community participation in solid waste management practices by assessing the community awareness and the encouragement support made by concerned bodies to ensure effective community involvement in solid waste management practices as well as the current status of community involvement in solid waste management practices in case of the sample study area.

1.7 Definition of Terms and Abbreviation

Waste: Waste is defined as anything discarded by an individual, household or organization and as a result it is a complex mixture of different substances, only some of which are intrinsically hazardous to health (Esther Tarico Chirema, 2017)

Solid waste: Discarded materials other than fluids and gases and it includes municipal garbage, agricultural refuse, demolition and industrial waste as well as mining residues (Gailloche, 2016).

Solid waste management: Solid waste management is defined as a discipline that associated with control of generation, storage, collection, transfer, processing and disposal of municipal solid waste in a way governed by the best principles of public health, economics, engineering, aesthetics and other environmental considerations (Daskalopoulos, 1999; cited in Marietha Ndele Mlozi(2011).

Community: In this study community is defined as both individuals and any groups of peoples living within the sub-city of the study area.

The role of community participation: The contributions of community involvement in an activity.

1.8. Limitation of the study

Unexpected limitation was the occurrence the pandemic of Covid-19. This was great problem faced by the researcher in the overall process of conducting his study. The pandemic greatly enhanced costs for undertaking this study in terms of time, finance, materials, transportation far more than what was expected. Consequently, the researcher encountered very hard situations mainly to contact with his study participants during the process of data collection. However, the researcher attempted to minimize financial and material shortages by getting

different supports from different individuals including his family members and others who are living nearby his family. By arranging the programs and taking the necessary care mainly during one to one interview, the student researcher has also tackled other social limitations aroused from the pandemic.

1.9. Organization of the study

This research contains five major chapters. The first chapter deals with the introduction part which includes background of the study, statement of the problem, general and specific objective of the study; basic research questions, significance of the study, scope of the study, limitation and organization of the study. The second chapter presents review of related literatures. The third one is the methodology part it gives brief explanation of the ways of the study conducts .it contain description of the study area, research design, source of data, method of data collection, sampling strategy, method of data analysis and ethical consideration. Findings from both the descriptive and narrative analysis are presented and discussed in the chapter four. Finally chapter five outlines main conclusions, policy implications and further research insights based on the results of the study.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURES

2.1. Introduction

This chapter deals with review of related literatures. It presents overview of solid waste and solid waste management practices, and community participation as well as its roles. In addition to this, the chapter also discusses trends of solid waste management practices and the role community participation from different perspectives and experiences prevailed in the world, in African and Ethiopian contexts. And finally, it discusses the constructed conceptual frame work within which the role of community participation in solid waste management is assessed through this study.

2.2. Overview of Solid Waste and Solid Waste Management (SWM)

2.2.1 Solid Waste

Waste has previously been defined by Esther Tarico Chirema (2017) as anything discarded by an individual, household or organization and as a result it is a complex mixture of different substances, only some of which are intrinsically hazardous to health. According to UK environmental protection act (1990; cited in Solomon Cheru, 2011), waste is any substance which constitutes scrap materials, an effluent or other unwanted surplus arising from application of any substances or article which requires to be disposed of which has broken, worn out, contaminated or otherwise spoiled. In addition, waste, as defined by Samake (2015), refers to rubbish, trash, junk or garbage, depending on the type of material or the regional terminology. It is an unwanted or undesired material or substance. Waste is also defined as any substance or an object that is disposed, is intended to be disposed or is required to be disposed of by the provisions of national laws, Wilson (2014).

Solid waste, on the other hand, has been defined by Gaillochot (2016), in his article of Solid Waste Management, as discarded materials other than fluids and gases and it includes municipal garbage, agricultural refuse, demolition and industrial waste as well as mining residues. Sources of solid waste include illegal vendors, households and residential areas (EMA, 2017, cited in Solomon, 2011). Solid waste is also defined as any garbage, refuse, sludge, and other discarded solid materials resulting from industrial, commercial, agricultural operations, and community activities, but does not include dissolved materials (U.S. Code of Federal Regulations, 1995 cited in Samuel, 2006,p.5, and recited in Solomon, 2011). Solid

waste means also any garbage, refuse sludge from a waste treatments plant, water supply treatment plant, or air pollution control facility and from community activities. In short it is anything that is neither liquid nor gas and is discarded as unwanted (Federal Negarit Gazeta of Ethiopia, proclamation number 513 of 2007; cited in Solomon, 2011).

In terms of its area of social setting one can also categorize solid waste as municipal solid waste (MSW) and define it as materials discarded in urban areas for which municipalities are usually responsible for collection, transportation, and final disposal while municipal solid waste management is an activity of planning and implementation of solid waste management components such as collection, transfer and transportation, recycling, resource recovery, and disposal MSW under jurisdiction of local government (Solomon, 2011). Municipal solid waste is also defined as, a material for which the primary generator or user abandoning the material within the urban area requires no compensation upon abandonment. This definition covers all urban solid wastes if it is generally perceived by society as being within the responsibility of the municipality to collect and dispose off (Cointreau, 1982). Some authors also define municipal solid waste (MSW) as material which is useless or unwanted material discarded as a result of human or animal activity. Most commonly, it is solids, semisolids or liquids in containers thrown out of houses, commercial or industrial premises (ESI Africa, 2004). The major type and source of municipal solid waste are food, paper, plastic, glass, metals and various other households' items including street sweepings and general refuse from households, commercial, institutional establishments and non-hazardous solid wastes from industries (Tchobanoglous et al., 1977; Bilitewski et al., 1977).

2.2.2. Solid waste management

According to Daskalopoulos (1999), as cited in Marietha Ndele Mlozi (2011), solid waste management is defined as a discipline that associated with control of generation, storage, collection, transfer, processing and disposal of municipal solid waste in a way governed by the best principles of public health, economics, engineering, aesthetics and other environmental considerations. Solid waste management is also considered to be one of the greatest challenges facing humankind in modern times since it has become a large, complex and costly service (Marietha Ndele Mlozi, 2011).

Bull (2013) views solid waste management as the generation of waste and the collection, processing, transportation and disposal of waste. Solid waste management refers to the collection, transportation, treatment, final disposal and recycling of solid wastes (Lankester,

2014). Booth (2014) concurs with the above definitions, denoting that solid waste management is the systematic control of generation, collection, storage, transportation, source separation, processing, treatment, recovery and disposal of solid waste. While levels, environmental impacts and costs vary dramatically, solid waste management is arguably the most important municipal service and serves as a prerequisite for other municipal actions (Martin, 2014). Solid waste management is a complex task which depends as much upon organization and cooperation between households, communities, private enterprises and municipal authorities as it does upon the selection and application of appropriate technical solutions for waste collection, transfer, recycling and disposal (Wehrle, 2016). Municipal solid waste management (MSWM) is the generation, separation, collection, transfer, transportation and disposal of waste in a way that takes in to account public health, economics, conservation, aesthetics, and the environment, and is responsive to public demands (WWF, 2005).

2.2.3. Solid Waste Management Practices (SWMPs)

Historically, the aim of waste management has been to prevent or to reduce the impact of waste materials on health or local amenity. Over the last 30 years, however, the focus of waste management has shifted to reducing impact of environment and to recover resources from waste materials. Waste management can involve solid, liquid or gaseous wastes, with different methods and fields of expertise for each (Lemma, 2007). There is a need for a complete rethinking of “waste” – to analyze if waste is waste (A thinking that calls for waste to become wealth, refuse to become resource, trash to become cash, Lemma, Ethiopia, 2006).

According to the World Bank, overall goal of solid waste management should be to collect, treat and dispose of solid wastes generated by all population groups in an environmentally and socially satisfactory manner using the most economical means available. Solid waste management is in crisis in many of the world’s largest urban areas as population attracted to cities continues to grow and this has lead to ever increasing quantity of domestic waste while space for disposal decreases (world Bank, 1999). Currently, the rapid expansion of the global urbanization, among other things, is increasing the volume of solid waste throughout the world. According to reviewed literature, it is estimated that about 1.3 billion metric tons of municipal solid waste was generated globally in 1990 (Buenrostro, 2011; cited in Marietha Ndele Mlozi,2011). In developing countries it is estimated that one to two thirds of the solid waste generated in most urban areas is not collected (Zurbrugg, 2003; cited in Marietha Ndele Mlozi,2011). In developing countries, the uncollected waste which is often mixed with human excreta is dumped indiscriminately in streets and in drains, which is contributing to spread of

diseases (Marietha Ndele Mlozi,2011). As a result, solid waste management, among others, is considered to be the most serious environmental problem that confronting the most urban areas of the developing countries (Sinha and , 2000a; cited in Marietha Ndele Mlozi,2011). Moreover, Marietha Ndele Mlozi (2011) states that improperly managed solid waste creates favourable breeding ground for vermin and insects and causes a serious risk of communicable diseases. In addition, solid waste in waterways causes pollution of the water as well as blocking the flow of water mainly during the seasons of heavy rains when flooding increases the amount of water flow.

2.3. Conceptual Over View of Community Participation

2.3.1 An Over View of Community Participation

The concept of the word community is defined as a group of people living in a specified geographical area such as village or district and sharing some common values, may face some similar problems, share some common facilities, may be of different background, experiences and skills but living together (Bray (1996; cited in Marietha Ndele Mlozi, 2011). While, according to Mikkelsen (1995) in Marietha Ndele Mlozi (2011), the concept of participation is widely used in the theory and practice of development but it is clear that perception of participatory approach varies considerably. In Marietha Ndele Mlozi (2011), Toner and Cleaver (2005) argue that, participatory and community- driven approaches are claimed to offer improved equity, sustainability and effectiveness in development activity; specifically they empower the power in collective activities which concern their lives (Marietha Ndele Mlozi, 2011). In addition, World Bank (1994) defines participation as a process, through which stakeholder's influence and share control over development initiatives, decisions and resources which affect them. Participation involves a significant number of persons in situations or actions, which enhance their well-being.

Public Participation may be broadly defined as the involvement of citizens in governmental decision-making processes. This ranges from being given notice of public hearings to being actively included in decisions that affect communities. It is generally a process of engaging stakeholders so that those most likely to be impacted by a particular activity can influence the outcome. Public refers not only to private citizens but institutions, civil society, labour unions, the Government, public officials, industrial, agricultural and trade associations, scientific and professional societies, environmental, educational and Health associations and other minority Groups (EPA 2005; cited in Yohanis Birhanu and Genemo Berisa, 2015). It is necessary to

establish the Public Involvement Framework and identify participants or stakeholders and determine their legitimacy by social analysis (UNEP 2002; cited in Yohanis Birhanu and Genemo Berisa, 2015).

In solid waste management activities community and stakeholders, participation can be define as individuals or organization with an appropriate interest towards achieving the goal of minimizing solid waste disposal practices according to its mechanisms. One ways of minimizing solid waste is by allowing the community in general be aware of the problems posed by in-effective management of solid waste.{Temasgen Lombe,2017}.Garity (2015) discusses community participation as the process by which individuals and families assume responsibility for their own health and welfare and for those of community and develop the capacity to contribute to theirs and the community development. He understand that they come to know their own situation better and are motivated to solve their common problems.

This enables the community to become agents of their own development instead of positive beneficiaries of development aid. Subash (2016) recognizes community participation as the sociological process by which residents organize themselves and become involved at the level of a living area or a neighbourhoods, to improve the conditions of daily life (waster, sanitation, health and education. The concept community participation comprises of three pertinent aspects, that is, awareness, mobilization and action. Awareness of the community raises a sense of ownership within the community, thus sustainable solid waste management is achieved (Chiwandamira, 2010).

According to Chapman (2013), the term community participation, rather than consultation, indicates an active role for the community, leading to significant control over decisions. She further states that the two key rationales for community participation are that it is ethical and pragmatic. In relation to the above statement, analyzing the data, Chimhowu (2012) notes that the operational efficiency of solid waste management depends upon the active participation of both the municipal agency and the citizens. Linkages of the public and private sector operators may improve the efficiency of the solid waste management and create new opportunities for employment (Chimbetete, 2012). Generally, community participation defined as active and meaningful involvement of the beneficiaries in the management of solid waste. Participation of the community is generally limited to activities associated with primary collection of domestic refuse.

2.4. Trends of Community participation in SWMPs

2.4.1. Trends of Community participation in SWMP in the World Wide

According to Manire Gotame{2012}. Solid waste management in Nepal has become one of the important and discussed topics. As the municipality is unable to handle the solid waste by itself community participation is being encouraged to manage the waste. Thus, it was focused on community participation in solid waste management in Kathmandu. According to Pokhrel and Viraraghava (2005) Nepal has one of the highest urban growth rates in South of Asia. This raises the point that participation has become an issue which has harmed those who were supposed to be empowered. They present participation as ‘tyranny’. Tyranny is the unjust exercise of power. The participatory approach developed out of the short comings of the top down approach. The aim of this approach was to make people central to development and encouraging the socially and economically backward marginalized people in decision making over their own lives. The participatory approaches to development are justified in terms of sustainability, relevance and empowerment (Cooke and Kothari, 2001).

Cornwall states that a community consists of both men and women. They hold different power relations in the society. She is curious about what it means to be a man or woman in a given context in a community Participatory approach fails to recognize the changing and the multiple identities of individuals, impact upon their choices about how to participate and overlook the potentials links between inclusion in participatory processes and subordination. Unless participatory processes take into account the relative bargaining power of so called stake holders they are in danger of merely providing opportunities to the more powerful (Kothari 2001).

The good example of community participation in waste management is presented by people in Dang. Dang Ghorahi one of the western parts of Nepal gives good example of making money out of waste. People of Ghorahi have been able to run a model sanitary landfill site at Karauti Danda from their own resources and turned it into a source of income through bee-keeping, producing compost and selling reusable items (Udaya, 2010).

2.4.2. Trends of Community participation in SWMP in Africa

In most African countries, management of solid waste is the responsibility of local authorities which have low capacity in terms of financial, operational, institutional structures, management and inappropriate technologies which affect the availability or sustainability of solid waste management services (Marietha Ndele Mlozi, 2011, p1). . Recent events in major urban centres

in Africa have shown that the problem of waste management has become serious that has aborted most efforts by city authorities to collect and dispose the generated solid wastes (Onibokun, 1999; cited in Marietha Ndele Mlozi, 2011, p2). The problem compounded as these countries continue to urbanize rapidly. The population increase inserts the pressure on local authorities on the management of solid wastes. It was estimated that most municipal authorities can collect and dispose of 20 up to 30% of the generated solid waste in the region (Chinamo, 2003; cited in Marietha Ndele Mlozi, 2011, p2).

Most of developing countries which prove that community participation in waste management plays a vital role in the contribution on the success of the services provided. Nevertheless, community participation is difficult to achieve even though it is important for solving the problem of waste management. Community participation recognized as a factor contributing to the success of waste management. There are several success factors that have been put forward by researchers that can practically encourage community participation in solid waste management. However, there are many disputes and disagreements on the selection of the best factors to ensure successful participation from the community in solid waste management. Therefore, this paper will assess the participation of the community in the improvement of solid waste management in Lindi municipality (Shukor, et al., 2011).

According the prevailing situation of SWM there are a need for the concerned authority to ensure the enforcement of policy, regulation and law governing the SWM if exist and those without there are a necessity of formulation. The current practice of solid waste disposal in big proportion is simply removing it from cities areas and dumps it in rural or deserted areas to be forgotten (Wikipedia, 2013). In Tanzania, Local Government has been given duty to manage and minimize solid waste (Environmental Management Act, 2004). Furthermore the authorities have been assigned duty to perform and undertake services of solid and liquid waste management (Public Health Act, 2009). Despite of having good law and regulation as well as by law on SWM still the situation of solid waste management is not convincing, the problem here is how these laws and regulations are enforced. Implementation and enforcement of waste regulations and conventions is severely constrained by the lack of good governance, transparency and prevalence of corruption in some cases. Lack of awareness, community participation and appreciation of best practices for environmentally sound management of wastes is a major constraint (Jumanne, 2010).

Lindi Municipal Council Annual report, (2013) indicated that the average solid waste generation per day was 55.66 tons while the capacity of collection for disposal per day was 13.3 (24%) tones. This implies that 42.36 tones (76%) of solid waste produced was not collected and disposed in a coordinated manner with the Municipal authorities. It was pointed out that lack of designated vehicles (compactors) for solid waste disposal as currently they had only one vehicle which is too old and it is used in multipurpose way as it is not designated for solid waste disposal only.

Furthermore, low community participation in the cleaning day announced by the Municipal Council and inadequate fund allocated for solid waste management services are among the reasons that hamper solid waste management in Lindi Municipal Council. This contributes to public health and environmental problems due to the fact that the rate of waste produced does correlate with the effort made by the Municipal Council in an attempt to collect and dispose the waste. The comparative low enforcement of laws, by-laws and regulations on solid waste management is another challenge facing the Municipal Council in addressing solid waste management. In addition the study conducted on Community Participation in Municipal Solid Waste Management in Informal Settlements: Morogoro Municipality in Tanzania and reveal that Morogoro Municipality has not yet achieved effective Community Participation in Municipal Solid Waste Management due to lack of appropriate organization, mobilization and coordination of local resources; and community empowerment Jumanne, (2010).

2.4.3. Trends of Community participation of SWMPs in Ethiopian Context

According to Selamawit Alem (15th February, 2006) solid waste management Service is one of the major city services that city governments are expected to provide their residents. However, continuous neglect, inappropriate organization, inadequate financing, lack of human resource and low community participation have hindered the effectiveness of the service delivery in developing countries, especially in Ethiopia. The study also has come up with the possibilities of involving community-based organization in solid waste management service as partners of local governments. The findings have indicated that community-based organization can play important roles particularly in educating, raising the awareness, and mobilizing the community's labour and financial contribution for the improvement of the service. The effort of creating new community organizations disregarding existing community-based organization has robbed strong partners which might have achieved significant sustainable result in improving the service especially in the poor parts of the city. Also lack of recognition and

disregard of the informal sector by the existing legal instruments is costing the city a possibility of having successful supporting service provider. There is legal instrument gap that led to confusion of roles and lack of coordination among public sector organizations and between the public and the private sector and the role of the community in the service.

2.5. Conceptual Framework of the Study

Having understanding some of the areas of the research topic discussed here in the above sections, in this sub-section the conceptual frame work attempted to be constructed in such a way that it helps to undertake study. On this regard, different measurable variables are identified.

As it can be seen in the figure 1 below, the variables associated with solid waste management practices are independent variables. These are include waste generated (sources of waste, amount of waste, types of wastes), solid waste management practices (collection, storage, treatment, transportation and disposal), level of participation, awareness, attitude and the level of the role of stakeholders (households, CSOs, NGOs, community based organizations (CBOs), private sector). Whereas, the variables related with the role of community participations on solid waste management practices can be considered as dependent variables. In other words, the role and status of community participation in solid waste management practices is the dependent variables which are influenced by independent variables-solid waste management practices which include solid waste generated (source, amount and types), solid waste management practices, level of awareness of the responsible bodies about community participation and participation of other key stakeholders. However, the influence of these independent variables can also be determined by other variables (background variables) that are include age, sex, household condition, household/family size, level of education and income.

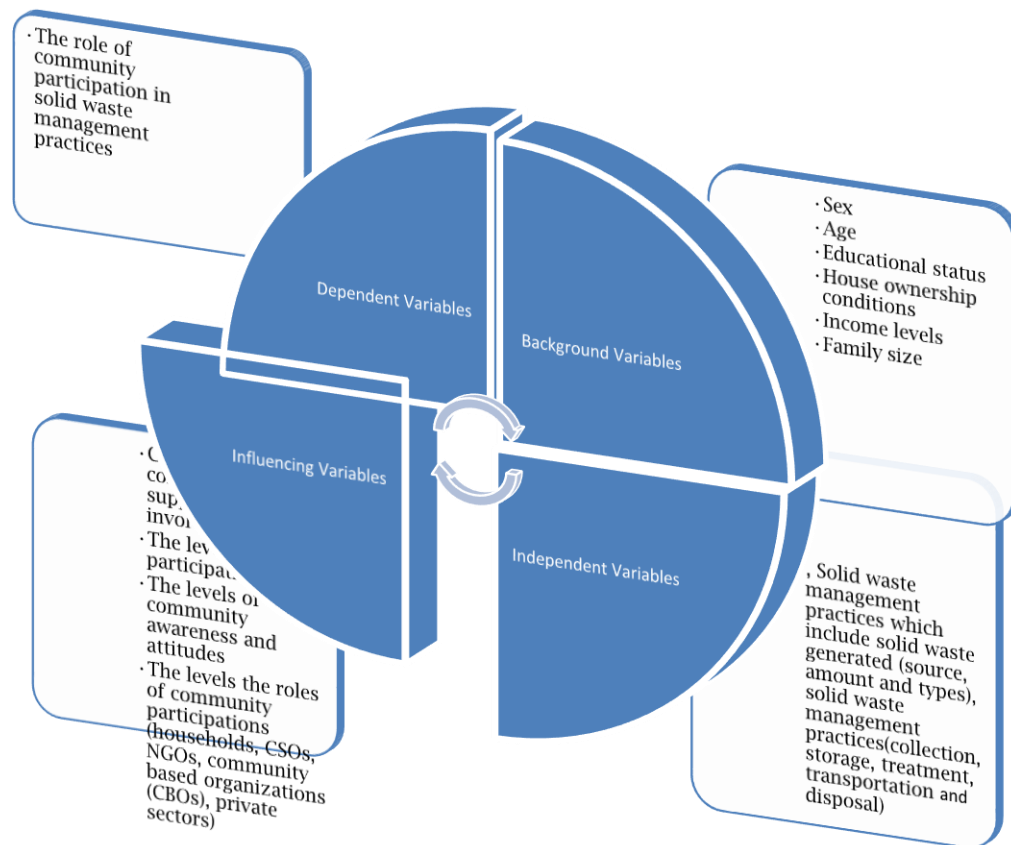


Figure 2.1: Conceptual frame work of the relationship between the roles of community participation and solid waste management practices

2.5.1. Community Awareness on Solid Waste Management Practices

Awareness of the community on the management of solid wastes is of great importance in motivating individuals to participate in waste management and in enabling residents to change their habits, behaviour and traditions towards effective waste management practices. One of the most important influencing factors that determine the performances of every activity is the participants' understanding about the aspects of an activity required to be performed. The aspects of this understanding may include the knowledge, perception, and behaviours that individuals have towards his/her activity. In a similar vein, community awareness that reviewed for the purpose of this study conceptualized in these aspects of understanding.

Attitude of beneficiaries about waste disposal workers and awareness raising programs associated with one the indicators from which social conditions are constructed (GetinetZemena, 2016). Rathana (2009) as cited in GetinetZemena (2016), stated the fact that a lack of public awareness and co-operation are root causes of solid waste service delivery

practices. Likewise, in Ethiopia one of the problems is lack of awareness in communities, private sectors, and decision makers (Getinet Zemena, 2016). The creation of awareness on the negative impact of improper management of solid wastes is of great importance in motivating individuals to participate in waste management.

In order to increase household participation in recycling state that the message of recycling as an appropriate waste management technique is need to be adequately communicated to enable residents to change their habits, behaviour and traditions towards recycling for the better. The messages can be created through various strategies. This could be carried out through advertisements in the community conversation, meetings, home to home visiting, newspapers, television, radio, billboards and the use of leaflet, posters, and group discussions Omran et al (2008).

Community awareness of and attitudes to management waste can affect the whole solid waste management practices. All steps in solid waste management practices starting from household. Waste storage to waste segregation, recycling and collection frequency, and willingness of paying for waste management services, and opposition to sit of waste treatment and disposal facilities all are depend on community awareness and participation. As a result, community education plays the role in developing the interests of community members and their participation in solid waste management (Mull 2005). In order to control improper solid waste disposal, there is the need to educate the citizens and raise awareness on the negative impacts of improper solid waste management asserts that adopting a waste disposal management awareness and education strategy would clearly indicate commitment to raising community awareness on waste. It also considered that such a strategy would provide an ideal educational framework that will lead to consistency of information and identify more practical activities that can be undertaken by individuals and authorities concerned with wastes management, Borough (2009).

2. 5.2.The contribution of different concerned bodies in facilitating community involvement in SWMPs

Proclamations No.261/2003 indicates that the city has a right to generate its own revenue from designated sources, obtain loans from local resources, and establish its own executive bodies, institutions and enterprises. Moreover, the City Government is responsible to define the power and duties of each unit in it. It also issues and enforces regulations and directives on matters connected with its jurisdiction.

Community participation requires the invitation of stakeholders to participate and these need to identify: The range of stakeholders; the inputs required (financial and other resources) in information staff, training, policy etc.; processes (nuts and bolts of the programme); and outputs (products and deliverables that come out of the work done) (Evans 2002; cited in Yohanis Birhanu and Genemo Berisa, 2015). The range of activities that make up community Participation is expanding rapidly and references are made to build the good will of community engagement. Community participation can be a wide range of activities especially in SWM and it takes account of aspirations and views of people directly affected.

UNEP (2002; cited in Yohanis Birhanu and Genemo Berisa, 2015) proposed a list of best practices need to be followed by responsible bodies to facilitate community participation as follows:

- Developing a community involvement framework as early as possible to establish the scope, timing and resource requirements necessary to support the process;
- Identifying the participants and stakeholders and establish their legitimacy and “representativeness” (using social analysis). It should be noted that not all social actors can or should be consulted on every detail of the proposed project;
- Identifying appropriate techniques of community participation/communication and provide relevant information in a form which can be easily understood (e.g. using a combination of seminars, simple written materials, visual aids and scale models can help to make the technical material accessible to the no specialist);
- Planning and execute events at a time and venue that will encourage the maximum attendance and free exchange of views by all interested groups. Money may be specifically allocated to help facilitate community involvement (e.g. to pay for travelling expenses or costs involved in hosting meetings and inquiries);
- Allowing stakeholders sufficient time to assimilate the information provided, consider the implications and present their views;
- Identifying mechanisms which ensure decision makers consider views and suggestions made by stakeholders - integrate findings and recommendations into the environmental assessment report, financing proposal and agreement; and
- Ensuring that responses and feedback are given on issues or concerns raised. The best

practices are quite representative of the methods outlined by other commentators and form the basis on which the performance evaluation of the OECS SWMP may be based.

2.5.3 The involvement of Community in SWMP

Community participation in SWM encompasses several forms of local involvement, including: awareness and teaching proper sanitary behaviour; contributing cash, goods or labour; participating in consultation, administration, and/or management functions. Community-based waste management (CBWM) projects require institutional support and recognition in order to be successful. An integrated system including waste separation at the source, resource recovery, and composting of organic waste requires representation of waste pickers, and integration of the community to work with allied stakeholders, including representatives of waste pickers.

Local leaders are often active in management of the service or maintain close contact with the municipality or community management body. Women and teens can play crucial roles, such as initiators, managers, operators, political activists, educators, and watchdogs for the community. Public awareness and attitudes to waste can affect the whole municipal SWM system. All steps in municipal SWM starting from household waste storage, to waste segregation, recycling, collection frequency, willingness to pay for waste management services, and opposition to siting of waste treatment and disposal facilities depend on public awareness and participation. Thus, lack of public awareness and school education about the importance of proper SWM for health and well-being of people severely restricts use of community based approaches in developing countries and also crucial factor for failure of a MSWM service in developing countries (Zurbrugg 2003) in similar way the community participation in Gurage is very less.

The mobilization of communities through the local authorities and existing community leadership structures is important. The formation of identified people by themselves into either community based organization (CBOs) which are groups need to be formed with in a local community or micro enterprises (MEs), which are defined as a service delivery or production business, usually low capital intensive consisting of individual members, either registered or operating informally in a such area is also advisable. These need to have proper leadership structures where gender equality is greatly encouraged to ensure that women take up positions of leadership since their numbers estimated to cover half of the total population of our country, Ethiopia. Therefore, in this way community participation can play its role, among other things,

in the following activities of SWM:

In avoiding and reducing municipal solid waste (MSW): The best and first method of solid waste management is avoidance, which is avoiding the occurrence of waste. The community members play great role by showing their willingness to use materials which are with no/or little waste. Whereas, reduce is a “Waste prevention”, which seeks to prevent waste from being generated. Waste prevention strategies include using less packaging, designing products to last longer, and re using products and materials. Waste prevention helps reduce handling, treatment, and disposal costs and ultimately reduces the generation of methane (Zurbr 2013).

Community participation in waste disposal can be a catalyst in community–development work, because it gives residents a feeling of self–esteem. It can lead to the possibility of income generation through recycling which will also reduce the quantities of material that have to be transported for disposal (UN, 1989). According to UN (1989), community based management waste disposal consists of the following elements:

- Primary waste collection (neighbourhood – wide collection and storage);
- A waste–management system, administering and financing the primary collection system.
- Planned co–operation with municipal service agencies, to ensure a reliable transfer of waste from the primary to the secondary collection cycle;

The development of recycling activities within the community; income- generation activities through processing and upgrading of waste material and development of local industries essential aspects of activities in which community required to play their expected roles. For example, in Europe, one university held a competition to design the best waste–management system. Most entries were highly complicated machines to separate the waste and sort out the different materials in order to recycle them by type. One entrant, however, presented a system with five different small containers for paper, plastics, glass, metals and organic materials, respectively. Apparently, all other systems were based on mixing everything first, compacting it and, then, trying to separate it again. The system with the five containers proved to be the least expensive but required community organization. Community participation in the field of waste disposal does not come easily, and much consciousness–raising is required in order to

create a feeling of responsibility. It is not uncommon for slum—dwellers to keep their own houses very clean and, yet, throw all waste on the nearest street. In some countries, there is a tradition of caring for areas around and between dwellings, whilst, in others, this is not the case. Such general attitudes affect the willingness to participate locally (UN, 1989)

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

3.1. Description of the Study Area

Gubre sub-city is located in Gurage Zone of the South Nation Nationalities and People's Regional State (SNNPRS) of Ethiopia. It is 168 Km far from Addis Ababa, the capital city of Ethiopia and 10 km far from Wolkite town, the zonal town of Gurage Zone. It is bordered by Agena in the East, by Karacha in West, by Wolkite in south, and by Endibir in North. Astronomically, the sub-city is located $6^{\circ} 57' N$ to $7^{\circ} 02' N$ latitude and $35^{\circ} 40' E$ to $37^{\circ} 61' E$ longitude situating in the North West apex of the SNNPRS.

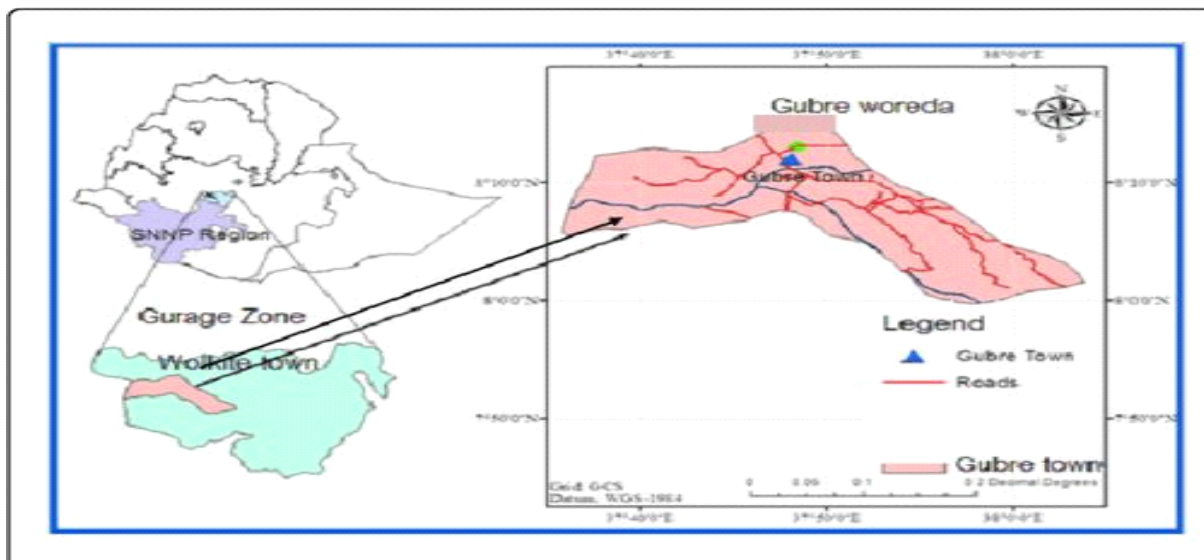


Figure 3.1 Map of the Study area

Demographically, it currently has 4837 total population of which 2533 are females and 2304 are male. Moreover, the sub-city has 1242 total households now (Gubre sub-city's Health Office, 2010).

3.2 Research Design

In this study cross sectional research design was employed for the purpose of conducting this study on three major population units- households, municipality, and health office in which it incorporates questionnaire, field observation and in-depth interview for each of these units

separately. For the purpose of presenting and analysis of the data obtained from these units, descriptive study design was also employed with the blends of quantitative and qualitative methods for the purpose of deep analysis and understanding of the role of community participation on solid waste management practices in the study area.

3. 3 Sources of Data

Both primary and secondary sources of data were used to obtain necessary information for this study. These primary and secondary data sources are separately discussed as follow.

3.3.1 Primary Data Sources

The primary data source for this study was collected from the 89 sample households (of whom 42 were male and 47 were female) through questionnaires, and from 2 municipality heads and from 2 the sub city health office representatives through in-depth interview tool. In addition to this, the primary data of this study was also obtained by personal observations of the student researcher from actual situations of solid waste management practices within the sample sub-city.

3.3.2 Secondary Data Sources

The secondary data source of this study was reviewed from different published and unpublished materials including relevant previous case studies, journals-articles, books, and website sources. Besides different documented materials within municipality of the sample sub-city such as long and short term plans, performance reports, human and financial records were used to obtain the secondary data for this study.

3. 4 Population, Sample and Sampling Techniques

The target population in this research were including household heads, municipality officials, health workers and sanitation (purification) experts working within of the sample sub-city of this study area. The Gubre sub-city has (1246) households, one healthy centre and one municipality. After determining the total population of the household, (89) heads of households were selected by using systematic sampling method randomly for self-administer questionnaires. (Systematic formula i.e.; $[K = \frac{NO}{Sample\ size}]$ while NO represents the total population, $K = \frac{1246}{89} = 14$). Accordingly, among 1246 total households 89 participants were selected within 14 difference intervals from the 1st household participants to the 2nd, 3rd, 4th...up to 89th based on the ordinary number given for each of the household. The probability value for this interval was determined from (1-14) by the researcher decision and household number

1 was selected as the first participant for starting. Household number 15 was selected as the second participant using (1+14), household number 29 also selected using (15+14) and so on.

In addition to this, another 4 key informants were purposively selected and included in the study for in-depth interview. Among of them (2) municipality officials (head/ Mayer and vice head/ Deputy Mayer) were selected using availability sampling method purposively and (2) representatives of health experts were selected from health office by using purposive sampling method. Totally, (93) representative participants were selected by using different sampling methods (systematic simple random, availability, and purposive sampling methods) and involved in different data gathering tools discussed here under.

3.5 Instruments and Techniques of Data Gathering

In order to obtain necessary data used to answer basic research questions and there by address the objective of this study, the student researcher has employed personal observation, different form of self-administered questionnaire and in-depth interview data collection tools. These instruments of data gathering were conducted in different ways and with different study participants discussed as follow.

3.5.1 Personal Observation

This instrument was employed to gather useful data about the situations solid waste and the process its management practices process of from different places of the sample sub-city.

3.5.2 Questionnaire

Questionnaire was administered for 89 for Gubre sub-city household head participants systematically selected for this study. Similar form of 5-points liker scale and close-ended questionnaires were developed in English for all of the respondents selected from household heads to fill the questionnaire, and then translated into Amharic for the purpose of minimizing respondents' problems of the language understanding and possible confusion in the process of reading and answering each of the questions. All of the questionnaire distributed were filled by each of the respondents and returned for discussion and analysis.

3.5.3 In-depth interview

In-depth interview is an essential method to collect qualitative data. In this research, in-depth interview was developed for 2 municipality official participants (head and vice head) and 2 health office representative participants, and totally this tool was conducted with 4 this study

respondents selected purposively to obtain more genuine and detail information about the issue of community participation on solid waste management practices in the study area.

3.6 Methods of Data Analysis

As commonly known, the process of data collection is not an end by itself, and thus, the culminating activities are data presentation, analysis and interpretation. Hence the researcher has employed descriptive survey method as well as narration methods of data analyzing with qualitative and quantitative approach. Quantitative data collected through closed-ended and 5-point liker-scale questionnaire were analyzed using frequency tables, numbers and percentages. Whereas qualitative data obtained from open-ended questionnaire and in-depth interview tools were presented and analyzed with the help of narration method.

3.7 Ethical Consideration

To conduct this study, emphasis has been given to every important ethical issue. First, before entering in to the actual data collection, permissions would have been received from every office the sample population units. At the time of data collection, the researcher was considered different ethical issues like informing or explaining about the objective of the study for the participants. In addition to this, the student researcher has politely requested all participants of the study in order to they participate in filling questionnaire and in responding interview.

CHAPTER FOUR

4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter deals with data presentation, analysis and interpretation. The chapter organized into for major sections. The first section of the chapter presents this introduction part which deals with overview of the major sections the chapter organized to present and discuss the results of the study based on the data assessed from different participants of this study. The second section focuses on presentation and discussions of the general characteristics of respondents the study. The third section presents quantitative data analysis and presentation whereas the fourth section of this chapter deals with qualitative data presentation and analysis.

4.2 General Characteristics of the Respondents

This part of the study result and discussion presents the data assessed concerning the background information of the respondents. The student researcher has organized and discussed each of these general characteristics with the help of frequency table, number and percent as follow.

4.2.1 Gender, Age and Educational Profiles of the Respondents

As it can be seen in the table 4.1 below, item number 1 depicts that the total study participants were 93 of which 49 (52.7%) female and 44 (47.3%) male. Furthermore, concerning population units from where the study participants selected, majority (89.9%) of the total respondents were selected from household population unit followed by 2.2% of respondents who were selected from Municipality Officials and 2% who were from Health Office. Concerning the sex profiles of the study participants, the same table also reveals that among household-head respondents majority (47.5%) were female and the rest 42.4% were male. Whereas from Municipality Officials 1% of male and 1% of female participants and similarly, those of the participants represented Health Office experts were with equal proportion as of which male 1% and female 1%.

Concerning the age information of the respondents, item 2 in the table 4.1 below also depicts that 51.61%, 21.5 %, 18.2 %, 6 % and 2 % of the total respondents were found between 31-40, 21-30, 41-50, ≥ 51 and ≤ 20 years old, respectively. This reveals that the majority (51.16 %) of the respondents were between 31-40 years old followed by (21.2 %) those who were between 21-30 years old. As one can simply understand from the result of the study presented in the following table, most of the respondents were found in middle adulthood developmental stages (between 26-54 years). On the other hand, item 3 in the table 4.1 below deals with educational status of this study participants and it reveals that majority (41.4 %) of the respondents were attended primary (1-8 grades) followed by 34.3 %, 15.05%, and 6 % of participants who were secondary (9-12grade), Certificate and above, and illiterate, respectively.

Table 4.1 Gender, age and educational level of the total respondents

No	Characteristics	Variables	Frequency of Responses as per population Units							
			Household Heads		Municipality Officials		Health Office Workers		Total	
			No	%	No	%	No	%	No	%
1	Sex	Male	42	42.4	1	1.1	1	1	44	47.3
		Female	47	47.5	1	1.1	1	1	49	52.7
		Total	89	89.9	2	2.2	2	2	93	100
2	Age	≤ 20	2	2	-	-	-	-	2	2
		21-30	18	18.2	2	2.15	-	-	20	21.5
		31-40	46	46.5	-	-	2	2	48	51.61
		41-50	17	17.2	-	-	-	-	18	18.2
		≥ 51	6	6	-	-	-	-	6	6
		Total	89	89.9	2	2.15	2	2	93	100
3	Educational Levels	Illiterate	6	6	-	-	-	-	6	6
		Primary (1-8 grades)	41	41.4	-	-	-	-	41	41.4
		Secondary(9-12grade)	32	32.3	2	2.15	-	-	34	34.3
		Certificate and above	12	12.1	-	-	2	2	14	15.05
		Total	89	89	89.9	2	2	2	2	93

Source: Field Survey, 2020

4.3. Descriptive Analysis of Quantitative Data

This section presents and discusses quantitative data obtained from 89 heads of household participants selected from Gubre Sub-City (of which 42 (47.2%) of them are male and the rest 47 (52.8%) are female) with the help of self-administered questionnaire. Themes and tables were constructed in respect of the demands of the respective research questions.

4.3.1. The Current Existing Level of Community Awareness about Solid Waste Management Practices.

This sub-section of this research paper presents and discusses the responses of household-heads of the participants for the first basic research question which was framed to be explored and answered to achieve one of the specific objective aimed to assess the existing level of community awareness about solid waste management practices. Based on different investigation questions prepared to examine the awareness of community and through raising necessary indicators of solid waste management practice and its process, the results of this study were organized and presented with the help of frequency tables, numbers, and percentages as follow.

Table 4.3: The existing level of community awareness in reducing illegal solid waste disposal practices

Categories of Variables	Frequency of the Responses of Household-heads participants					
	Male		Female		Total	
	No	%	No	%	No	%
very poor	1	1.1	3	3.4	4	4.5
Poor	14	15.7	18	20.2	32	36
Good	18	20.2	21	23.6	39	43.8
very good	6	6.7	4	4.5	10	11.2
Excellent	2	2.2	1	1.1	3	3.4
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

Concerning the current level of the community awareness in reducing illegal solid waste disposal practices, the table 4.3 above reveals that 43.8 %, 36 %, 11.2 %, 4.5 %, and the rest 3.4 % of the household-head participants replied good, poor, very good, very poor and excellent, respectively. This implies that most of the community members, to some extent, have understanding enable them reduce illegal solid waste disposal practices. In other words, influencing factors related to community awareness for an illegal solid waste disposal activity was very limited most of community had problems of awareness to protect themselves from an illegal solid waste disposal activity.

In cognizant to the above findings, one the key informants from the health office replied as follow:

‘The current level of community awareness in reducing illegal solid waste disposal practices, in understanding the advantages of the existence of proper solid waste management practices, and in understanding the purpose of community involvement in solid waste management practices was good. However, there is lack of commitments to effectively avoid solid wastes.

Table 4.4: The existing level of community awareness about the strategies of solid waste collection transportation, storing and disposal systems

Categories of Variables	Frequency of the Responses of Household-heads participants					
	Male		Female		Total	
	No	%	No	%	No	%
very poor	5	5.6	9	10.1	14	15.7
Poor	21	23.6	25	28.1	46	51.7
Good	13	14.6	8	9	21	23.6
very good	1	1.1	3	3.4	4	4.5
Excellent	1	1.1	2	2.2	3	3.4
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

The researcher has also assessed existing level of community awareness about the strategies of solid waste collection transportation, storing and disposal systems. On this regard, the result of the study in the table 4.4 above depicts that 51.7 % of the respondents replied poor whereas the rest 23.6 %, 15.7 %, 4.5 %, and 3.4 % replied that the status community awareness about the strategies of solid waste collection transportation, storing and disposal systems was good, very poor, very good and excellent, respectively. This implies that the existing level of community awareness regarding the strategies of solid waste collection transportation, storing and disposal systems was found at low level since almost the majority (51.7 % and 15.7 %) of the respondents respond poor and very poor, respectively to indicate the current level of community awareness on the same issue raised.

Supporting to this, one of the key informants from the Municipality stated: *‘The current community awareness in using proper methods in collection, transportation, storing, and disposal systems of solid waste was poor. Most of them had no proper collection plan, storing materials other than sacks and plastic bags, and also majority of the community had no well known areas for the disposal. Even there are many people who dispose solid wastes everywhere.’*

Table 4.5: The existing level of community awareness about the existing institutions structural arrangements for solid waste management within the Gubre sub-city

Categories of Variables	Frequency of the Responses of Household-heads participants					
	Male		Female		Total	
	No	%	No	%	No	%
very poor	23	25.8	25	28.1	48	53.9
Poor	15	16.9	18	20.2	33	37.1
Good	4	4.5	3	3.4	7	7.9
very good	-	-	1	1.1	1	1.1
Excellent	-	-	-	-	-	-
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

As it is stated in the table 4.5 above, 53.9 %, and 37.1 % of the respondents respond very poor and poor, respectively to indicate the level of community awareness about institutions structural arrangements for solid waste management within the Gubre sub-city. Whereas the rest 7.9 % and 1.1 % of the participants replied good and very good, respectively while none of the respondents respond excellent. In connection to this, one of the interviewee stated that: *‘The managing solid waste had no a single government structure and it is perceived as cross cutting issues mainly by seen as the concern of Municipality, health office and environmental protection office. However, most our community members believe that Municipality is the only responsible government body for solid waste management service delivery.’*”

This implies that except very few numbers of residents, the majority the community members were not familiarized with the structural arrangements of institutions of the solid waste management practices in the sample Gubre sub-city. Unfamiliar zed community members with structural arrangements of institutions of the solid waste management practices could not effectively participate and hold the responsible bodies accountable due to lack of understanding about responsible bodies working within the institutions. Such community awareness can adversely affect the effectiveness of solid waste management practice.

Table 4.6: The existing level of community awareness about the rule and regulations of solid waste management practices

Categories of Variables	Frequency of the Responses of Household-heads participants						
	Male		Female		Total		
	No	%	No	%	No	%	
very poor	16		18	22	24.7	38	42.7
Poor	19		21.4	19	21.4	38	42.7
Good	5		5.6	4	4.5	9	10.1
very good	2		2.2		1.1	3	3.4
Excellent	-		-	1	1.1	1	1.1
Total	42		47.2	47	52.8	89	100

Source: Field Survey, 2020

The table 4.6 above also shows that 42.7 % and other similar proportion 42.7 % of the study participants replied very poor and poor to indicate that the existing level of community awareness about the rule and regulations of solid waste management practices. The rest 10.1 %, 3.4 % and 1.1 % of the respondents said good, very good and excellent, respectively. This indicates that majority of the residents had no necessary understanding regarding the rule and regulations of solid waste management practices which more likely would have negative impacts on the activates of solid waste management of the study area.

Supporting to this, one of the interviewees said that: *‘Almost majority of our community members do not properly know the legal rules and regulations associated with the solid waste management practices in which may be uphold by the courts to punish wronged individuals. Moreover, were not provided with updated information regarding rules and regulations need to followed and respected by every member. However, most of the community members follow and respect the important and long lived social- cultural values in which the perceive improper disposal of solid waste specially on the public road sides as a shame and as one of anti-social behaviours.’*

Table 4.7: The existing level of community awareness about the negative impacts of improper handling solid waste

Variables	Frequency of the Responses of Household-heads participants					
	Male		Female		Total	
	No	%	No	%	No	%
very poor	1	1.1	2	2.2	3	3.4
Poor	6	6.7	11	12.6	17	19.1
Good	17	19.1	24	27	41	46.1
very good	18	20.2	10	11.2	28	31.5
Excellent	-	-	2	2.2	2	2.2
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

The table 4.7 above indicates that 46.1 %, 31.5 % , 19.1 %, 3.4 % and 2.2 % of this study participants said good, very good, poor, very poor, and excellent, respectively the existing level of community awareness about the negative impacts of improper handling solid waste on human health and other socio-cultural and economic matters. This implies that majority of the residents were aware of the negative impacts of improper handling solid waste on human health and other socio-cultural and economic matters which may positively influence the reinforcement of solid waste management practices of the sample sub-city.

Table 4.8: The existing level of community awareness about the advantages of the existence of proper solid waste management practices

Categories of Variables	Frequency of the Responses of Household-heads participants					
	Male		Female		Total	
	No	%	No	%	No	%
very poor	3	3.4	4	4.5	7	7.9
Poor	7	7.9	12	13.5	19	21.3
Good	27	30.3	24	27	51	57.3
very good	4	4.5	5	5.6	9	10.1
Excellent	1	1.1	2	2.2	3	3.4
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

The table 4.8 above depicts that the majority (57.3 %) of the household-head participants replied good while the rest 21.3 %,10.1 %, 7.9 % and 3.4 % of the respondents said poor, very good, very poor and excellent, respectively to indicate the existing level of community awareness about the advantages of proper solid waste management practices. Thus, this study result implies that most of the residents have understanding about the necessity of proper solid waste service delivery through effective solid waste management practice. This can positively affect solid waste management practice if the responsible bodies exert their efforts on facilitating community members to participate in solid waste practice.

Table 4.9: The existing level of community awareness about different stakeholders and their responsibilities of solid waste management practices

Categories of Variables	Frequency of the Responses of Household-heads participants					
	Male		Female		Total	
	No	%	No	%	No	%
very poor	17	19.1	18	20.2	35	39.3
Poor	21	23.6	19	21.3	40	44.9
Good	3	3.4	8	9	11	12.4
very good	1	1.1	2	2.2	3	3.4
Excellent	-	-	-	-	-	-
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

The table 4.9 above reveals that 44.9 % and 39.3 % of this study respondents replied poor and very poor, respectively to indicate the existing level of community awareness about different stakeholders and their responsibilities in solid waste management practices. Whereas the rest 12.4 %, 3.4 % and none of the study respondents answered good, very good and excellent, respectively. This indicates that the wide ranges of community members are not familiar with different stake-holders and their responsibilities within the sectors of solid waste management practice. This can adversely affect the relationship between service users of local residents and various experts of solid waste management practices which in turn negatively influence the involvement of community in the practice.

In connection to this, one of the interviewees *replied that " To some extent every member of the community can hold his/her responsibility and play role in enhancing the success in solid waste management in their community. When I say this community itself is one of the stakeholders of SWMPs, but not the key one. For me the key stakeholders are those appointed by the government and/or by the assemblies of the local community and legally provided responsibility to act in such away. In such a case, I we need to perceive the whole community members can be important stakeholders in enhancing the success in solid waste management in their community. But I am one of the stakeholders whether the key stakeholders believe or not. For example municipality officials and other similar representatives may or may not perceive the service users as the stakeholders of SWMPs but the all living community can be stakeholders even in holding government officials and others service providers to be account. Whenever we accept this, the degree of their motivation would more likely increase and they can show their memberships of the stakeholder of SWMPs. Whenever the key stakeholders are being silent about the whole community role they would more likely hold everything related to SWMPs by themselves which they could not carry out properly. Moreover, whenever the key stakeholders openly introduce community members the issues related to SWMPs and what type of roles they will have and can play in the process, then all can feel more responsible and even act as one of the key stakeholders."*

Table4.10: The existing level of awareness about personal, social and legal responsibility in accomplishing solid waste management activities

Categories of Variables	Frequency of the Responses		
	Male	Female	Total

	No	%	No	%	No	%
very poor	9	10.1	11	12.4	20	22.5
Poor	20	22.5	18	20.2	38	42.7
Good	12	13.5	17	19.1	29	32.6
very good	1	1.1	1	1.1	2	2.2
Excellent	-	-	-	-	-	-
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

It is also important to assess community awareness in relation to the responsibility of the individual community members in terms of existing social and legal values or norms because both values, if they are properly understood, they can guide every individual in every aspects life activity. On this regard, the result of this study in the table 4.10 above depicts that 42.7 %, 32.6 %, 22.5 %, 2.2 % and none of the household-head of this study participants replied poor, good, very poor, very good, and excellent, respectively. This indicates that majority of local residents not properly know their personal, social, and legal responsibilities regarding solid waste management practice. This may lead an individual to poorly accomplish or fail to accomplish his/her expected roles. In similar way, such an individual also cannot properly taking part in solid waste management practices.

Table 4.11: The extent by which community members are being regularly provided with information about the status of community participation in solid waste management practices

Categories of Variables	Frequency of the Responses of Household-heads participants					
	Male		Female		Total	
	No	%	No	%	No	%
very poor	15	16.9	19	21.3	34	38.2

Poor	17	19.1	20	22.5	37	41.6
Good	7	7.9	5	5.6	12	13.5
very good	2	2.2	1	1.1	3	3.4
Excellent	1	1.1	2	2.2	3	3.4
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

The table 4.11 above depicts that 41.6 %, 38.2 %, 13.5 %, 3.4 % and other similar proportion 3.4 % of the respondents replied poor, very poor, good, very good, and excellent, respectively to indicate that the extent by which community members are being regularly provided with information about the status of community participation in solid waste management practices. This implies that concerned bodies do not provide residents with update information regarding the level of community participation in solid waste management practices. This can adversely affect the role of community participation on one hand and the activities of solid waste management on the other hand.

Table 4.12: The existing level of community awareness regarding the purpose of community involvement in solid waste management practices

Items	Categories of Variables	Frequency of the Responses					
		Male		Female		Total	
		No	%	No	%	No	%
The existing level of community awareness regarding the purpose of community involvement in solid waste management practices	very poor	14	15.7	17	19.1	31	34.8
	Poor	17	19.1	19	21.3	36	40.5
	Good	8	9	9	10.1	17	19.1
	very good	2	2.2	2	2.2	4	4.5
	Excellent	1		-	-	1	1.1
	Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

The table 4.12 above depicts that 40.5 %, 34.8 %, 19.1 %, 4.5 % and 1.1 % of the household-head participants respond poor, very poor, good, very good and excellent, respectively to

indicate the existing level of community awareness regarding the purpose of community involvement in solid waste management practices. This implies that majority of the residents expected the responsibilities of carrying out solid waste management practices are given for others rather than themselves and as a result most of them believe that their roles in this practice not required.

4.3.2 The encouragement supports made by concerned bodies to enhance community involvement in solid waste management practices

Table 4.13: The extent of the contributions made by concerned bodies to enhance community involvement in solid waste management practices

Key for Variables: (1) =Satisfactory, (2) = Unsatisfactory, (3)=Fair, (4)=Poor, (5) =I can't decide, (T) =Total

No	Items	Respondents		Frequencies of the Responses					
				1	2	3	4	5	Total
1	In identifying the views and suggestions of stakeholders for the purpose of integrate and prepare plans?	Male	No	2	8	11	16	5	42
			%	2.2	9	12.4	18	5.6	47.2
		Female	No	3	11	5	20	8	47
			%	3.4	12.4	5.6	22.5	9	52.8
		Total	No	5	19	16	52	13	89
			%	5.6	21.3	18	58.4	14.6	100
2	In identifying the participants and stakeholders and establish their legitimacy and representativeness?	Male	No	1	11	8	18	4	42
			%	1.1	12.4	9	20.2	4.5	47.2
		Female	No	2	11	10	17	7	47
			%	2.2	12.4	11.2	19.1	7.9	52.8
		Total	No	3	22	18	35	11	89
			%	3.4	24.8	20.2	39.3	12.4	100
3	In consulting the identified stake-holders with relevant	Male	No	-	12	4	20	6	42
			%	-	13.5	4.5	22.5	6.7	47.2
		Female	No	-	10	8	21	8	47
			%	-	11.2	8.5	22.5	8.5	47.2

	information which can be easily understood?		%	-	11.2	9	23.6	9	52.8
		Total	No	-	22	12	41	14	89
			%		24.7	13.5	46.1	15.7	100

Source: Field Survey, 2020

Item number 1 in table 4.13 above, depicts that 58.4 % and 18 % of the respondents replied poor and fair, respectively whereas the rest 21.3 %, 14.6 %, and 5.6 % of the respondents respond unsatisfactory, I can't decide, and satisfactory, respectively to rate the extent to which concerned bodies identify the views and suggestions of stakeholders for the purpose of integrate and prepare plans.

In addition, item 2 of the same table reveals that 39.3 %, 24.8 %, 20.2 %, 12.4 % and 3.4 % of the respondents replied poor, unsatisfactory, I can't decide and satisfactory, respectively that the level of the contribution made by concerning bodies in identifying the participants and stakeholders and establish their legitimacy and representativeness.

Furthermore, item 3 in the table 4.19 above shows that 46.1 %, 24.7 %, 15.7 % and 13.5 % replied poor, unsatisfactory, I can't decide and fair while none of the participants replied satisfactory to rate the contribution of concerning bodies in consulting the identified stakeholders on every detail of the proposed project of solid waste management practices to provide them with relevant information which can be easily understood.

In addition to the results of the questionnaire presented here above, the researcher has also conducted a face- to- face interview with one of municipality officials. Apart from these issues assessed about the encouragement support provided above, the extent to which responsible bodies developed workable framework to establish the scope, timing and resource requirements that support the process of community involvement in solid waste management practices. On this regard, the key informant indicated that:

There was no developed framework that can establish the scope, timing and resource requirements that support the process of community involvement in solid waste management practices. This is because we have many hindering challenges to enhance the contributions of the community in the stated practice. Although solid waste management practice is one of the important social services need to be delivered for the people, it is subordinated to other activities of the municipality and that of the health workers as well as environmental protection office.

All these government sectors, as a result, could not provide due attention for solid waste management activity since these bodies have given numerous responsibilities that would have been seen as priority areas to perform on a regular basis while the issues related to solid waste still perceived as minor one which do not required to be performed on the daily basis. In addition to having very less attention, there are also other major challenges such as time constraint, limited human, financial as well as material resources for developing frame work, activity plan and programs, developing financial and technical enquiry proposal, providing training and creating awareness, and for conducting pre discussion.

This implies that very less emphasis was given to developing the supportive frameworks with intention to encourage community participation in solid waste management practices from the side of the responsible bodies which adversely affect to ensure effective involvement of the community in solid waste management practices as the government budget and efforts alone could not properly deliver solid waste management services that able to address the demand of the sub-city.

4.3.3 The current status of community involvement in solid waste management practices

Table 4.14: The current status of community involvement in preparing proper dumping places for the solid waste generating from the households

Categories of Variables	Frequencies of the responses of household participants					
	Male		Female		Total	
	No	%	No	%	No	%
Very high	1	1.1	6	6.7	7	7.8
High	11	12.4	9	10.1	20	22.5
I can't decide	1	1.1	5	5.6	6	6.7
Low	14	15.7	9	10.1	23	25.8
Very low	15	16.8	18	20.2	33	37
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

The table 4.14 above presents the data assessed about the current level of community participation in preparing proper dumping places of the solid waste generated from the households. Accordingly, the table 4.7 depicts that among the total number of household-head representatives, 37 % replied very low followed by 25.8%, 22.5 %, 7.8 % and 6.7 % respond low, high, very high, and I cannot decide, respectively.

This indicates that the local community contribution in preparing dumping site was unsatisfied comparing with what needed in solid waste management practices as stated in a literature which reveals that waste management is also dependent on safe and reliable disposal system. This system can be effectively achieved when disposal site is on accessible landfill near to collection points, closed and protected from animals and which has no bad smell to the community (Getinet Zemena, 2016).

Supporting this, one of the key informants replied his responses stating as follow: *Although the municipality is never been allocated with financial budget required for solid waste management practices, none emphasize was given to initiate community participation for the preparation of necessary dumping areas for solid wastes in this sub-city. As a result, regarding preparing proper dumping places for the disposal of solid wastes generated from the households, still now any contribution has not been made by the community and other non-governmental organizations. Even to prepare dumping places, most of the local community members do not properly use the seven maintained by government budget for the sub city mainly because lack of commitments. Consequently, there are many households who dumped solid wastes generated from their house everywhere."*

In connection to this one of the key informants stated that *"We have no the dumping places prepared by community participation but currently we are using seven garbage carts or bins as the initial places for the solid wastes collected from the households and these seven bins are provided by the Wolkite city as Gubre sub-city has no its own budget allocated for the purpose of solid waste management practice. Moreover, no emphasize was given to initiate community participation for the preparation of necessary dumping areas for solid wastes in this sub city. As a result, regarding preparing proper dumping places for the disposal of solid wastes generated from the households, still now any contribution has not been made by the community and other non-governmental organizations. Even to prepare dumping places, most of the local community members do not properly use the seven maintained by government budget for the*

sub city mainly because lack of commitments. Consequently, there are many households who dumped solid wastes generated from their house everywhere."



Figure 4.1: The dumping place of the solid waste generated from the households observed in the Gasore area.

Table 4.15: The current status of community involvement in developing solid waste disposal strategies and using them in the overall practices of the solid waste management to handle the solid waste generated from households

Categories of Variables	Frequencies of the responses of household participants					
	Male		Female		Total	
	No	%	No	%	No	%
Very high	2	2.2	1	1.1	3	3.4
High	3	3.4	4	4.5	7	7.9
I can't decide	2	2.2	3	3.4	5	5.6
Low	12	13.5	19	21.3	31	34.8
Very low	23	25.8	20	22.5	43	48.3
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

As it can be seen in the table 4.15 above, the current status of community involvement in developing and using solid waste disposal strategies in the overall practices of the solid waste management to handle the solid waste generated from households was very low as 48.3% of the household participants of this study replied very low followed by 34.8 % of the respondents answered low. The rest 7.9% and 3.4 % of the respondents replied the current status of community involvement in developing solid waste disposal strategies and using them in the overall practices of the solid waste management to handle the solid waste generated from households was high and very high whereas 5.6 % of the participants could not decide on the same issue.



Figure 4.2: One of garbage carts or bins observed around in the Magesha River

Table 4.16: The current status of community involvement in collecting and transporting solid waste through proper mechanisms

Categories of Variables	Frequencies of the responses of household participants					
	Male		Female		Total	
	No	%	No	%	No	%
Very high	4	4.5	5	5.6	9	10.1
High	7	7.8	6	6.7	13	14.6
I can't decide	4	4.5	5	5.6	9	10.1
Low	20	22.5	19	21.3	39	43.8

Very low	14	15.7	14	15.7	28	31.5
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

The table 4.16 above presents that 48.3 %, and 31.5 % of the respondents replied the current status of community involvement in collecting and transporting solid waste through proper mechanisms was low and very low, respectively. The same table also depicts 14.6%, 10.1 % and 10.1 % of the respondents replied high, very high and cannot decide, respectively that current status of community participation in collecting and transporting solid waste through proper mechanisms. In addition to the issues quantitatively assessed here above, one of the key informants stated:

‘There are some improvements regarding the contribution of the local community in the practice of solid waste management, particularly taking part in the nationally introduced cleaning day campaign. As this campaign was from the concerns of the government of Ethiopia, it was carried out through the country of which our Gubre sub-city was apart. On this day, for example, an individual member of our community has taken and cleaned 20 meter radius personally. The campaign was introduced for the first time and new for our community. It is expected to be essential in shaping the attitude of the local community members and in enhancing their participation in SWMPs if it is performed continuously and sustainable. ’

Table 4.17: The current status of community involvement in incinerating or burning solid wastes generated from the households on properly identified places

Categories of Variables	Frequencies of the responses of household participants					
	Male		Female		Total	
	No	%	No	%	No	%
Very high	1	1.1	2	2.2	3	3.4
High	1	1.1	1	1.1	2	2.2
I can't decide	1	1.1	4	4.5	5	5.6
Low	19	21.3	24	27	43	48.3

Very low	20	22.5	16	18	36	40.5
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

Concerning the current status of community involvement in incinerating or burning solid wastes generated from the households on properly identified places, the table 4.17 above depicts that the majority (48.3%) of the respondents replied low followed by 40.5 % answered very low. The rest relatively few proportions of 5.6 %, 3.4 % and 2.2 % replied I can't decide, very high, and high, respectively to indicate the current status community participation in incinerating or burning solid wastes generated from the households on properly identified places.

Table 4.18: The current status of community involvement in handling solid wastes generated from the households by using proper containers prepared for this purpose

Categories of Variables	Frequencies of the responses of household participants					
	Male		Female		Total	
	No	%	No	%	No	%
Very high	4	4.5	8	9	12	13.5
High	17	19.1	16	18	33	37.1
I can't decide	2	2.2	-	-	2	2.2
Low	15	17	18	20.2	33	37.1
Very low	4	4.5	5	5.6	9	10.1
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

As it can be seen in the table 4.18 above, 37.1 % and other equal proportion of 37.1 % replied low and high to indicate that the current status of community involvement in handling solid wastes generated from the households by using proper containers prepared for this purpose. The same table also depicts that 13.5 %, 10.1 %, and 2.2 % of the household-head of this study

participants stated very high, very low, and can't decide to indicate an existing level of community participation in handling solid wastes generated from the households by using proper containers prepared for this purpose.

Table 4.19: The current status of community involvement in contributing financial, material, and technical supports for the solid waste management practices of the sub-city

Categories of Variables	Frequencies of the responses of household participants					
	Male		Female		Total	
	No	%	No	%	No	%
Very high	1	1.1	2	2.2	3	3.4
High	1	1.1	3	3.4	4	4.5
I can't decide	5	5.6	2	2.2	7	7.8
Low	18	20.2	22	24.7	40	44.9
Very low	17	19.1	18	20.2	35	39.3
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

Regarding the current level of the community contributing in providing financial, material, and technical supports for the solid waste management practices of the sub-city, the table 4.19 above shows that 44.9 %, 39.3 %, 7.8 %, 4.5 % and 3.4 % of the household-head participants of the study replied low, very low, I can't decide, high and very high, respectively. This implies that there is no or very limited participation of the community in contributing financial, material, and technical supports for the solid waste management practices of the sub-city.

In connection to this, one of the key informants from the Municipality attempted to explain some of the factors for this poor community contribution stating that:

The community contribution in form financial, material and technical is unsatisfied. This was not due to lack of the interests the existing community but as I think it is because of the absence effective mobilization activities from the local service providers including the Municipality. To find out and facilitate interested non-governmental organizations, private sectors, CBOs, and the whole community members, we need technically skilled man powers who effectively identify

areas of priority, formulate applicable work plans, set strategies and so on as their own main responsibility through taking enough time, finding and allocating necessary budget, creating awareness for different stakeholders. Moreover, he added still now the municipality has no its own necessary budget allocated for solid waste management practice in general and for the requirement of such community mobilization, human power, in particular. This and others similar constraints leads to very low community involvement and an inefficient service delivery regarding to solid waste management practice.'

Table 4.20: The current status of community involvement in developing understandings about the negative impacts of improper solid waste disposal practices

Categories of Variables	Frequencies of the responses of household participants					
	Male		Female		Total	
	No	%	No	%	No	%
Very high	1	1.1	3	3.4	4	4.5
High	13	14.6	17	19.1	30	33.7
I can't decide	5	5.6	3	3.4	8	9
Low	14	15.7	16	18	30	33.7
Very low	9	10.1	8	9	17	19.1
Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

The table 4.20 above presents the data assessed concerning the current status of community involvement in developing the understandings of one self and that of the other individual members about the negative impacts of improper solid waste disposal practices on the human health and other socio-cultural life styles. To rate this, 33.7 %, 33.7 %, 19.1 %, 9 % and 4.5 % of the study participants respond that low, high, very low, I can't decide and very high, respectively to indicate the existing status of community participation in developing understandings of one self and that of the other individual members about the negative impacts

of improper solid waste disposal practices on the human health and other socio-cultural life styles.

This implies that, although there are some of the residents who are involving in developing the understandings of themselves and that of the other individual members, the majority of the residents are not taking part in developing the understandings of themselves and that of the other individual members about the negative impacts of improper solid waste disposal practices on the human health and other socio-cultural life styles which adversely affect the solid waste management practice of the sample sub-city.

Table 4.21: The current status of private sector involvement in solid waste management practices

Items	Variables	Frequency of the Responses					
		Male		Female		Total	
		No	%	No	%	No	%
In transportation:	Yes	14	15.7	10	11.2	24	27
	No	28	31.5	37	41.6	65	73.0
	Total	42	47.2	47	52.8	89	100
In dumping activity:	Yes	27	30.3	31	34.8	58	65.2
	No	15	16.9	16	17.9	31	34.8
	Total	42	47.2	47	52.8	89	100
In collection:	Yes	26	29.2	28	31.5	54	60.7
	No	16	17.9	19	21.3	35	39.3
	Total	42	47.2	47	52.8	89	100
	Yes	6	6.7	6	6.7	12	13.5
	No	36	40.5	41	46.1	77	86.5

In collection, transportation and dumping activities	Total	42	47.2	47	52.8	89	100
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Source: Field Survey, 2020

The table 4.21 above presents the contribution of private sectors in solid waste management practices. For the purpose of precisely clarify the aspects of solid waste management practices in which private sectors are contributing their expected roles, the same table presents and discusses the current status of private sector contributions in three specific areas of solid waste management practices differently and in all of the three indicators of solid waste management practices at once. Accordingly, item 1 in the table 4.21 above depicts that 73 % of the household-head participants replied "No" to indicate that there was no private sector participation in transporting solid wastes. Whereas very few proportion of the participants (27%) respond "Yes" that indicates there was private sector participation in transporting solid wastes. This finding indicates that the private sector contribution was not satisfactory and ineffective comparing with what is stated in a relevant literature which asserts that under the framework of effective solid waste management, safe and reliable transportation was considered as one of the key measurement for effective solid waste management practice (Hufane, 2015; cited in GetinetZemena,2016). Subsequently, effective solid transportation can be achieved by companies with sufficient manpower and modern vehicle, nature of available roads, traffic condition and travelling Schedule (Shubeler, 1996; cited in Getinet Zemena, 2016).

Item 2 in the table 4.21 reveals that 65.2 % and 34.8 % of the participants replied that "No" and "Yes", respectively that private sector participation in dumping solid wastes. This implies that the private sectors involvement in dumping activities of solid waste was very low as the majority (65.2 %) of the respondents respond "No" to indicate there was no private sectors participation in the dumping activity of the solid wastes within the sample study area.

On the other hand, item 3 of the same table shows that majority (60.7 %) of the respondents replied "Yes" to indicate that there was private sector participation in the collection of solid wastes while only 39.3 % of the respondents said "No".

On this regard, a literature stated that a given waste management practice is considered to be effective when a waste collection goals are achieved. An effective waste collection can be recorded when companies are able to facilitate enough collection points near to all beneficiaries, increase a frequency of waste pick up, avoid waste spill over and when waste personnel is fully and frequently trained (Getinet Zemena, 2016).

Comparing with this, the result of this study under item 3 of the table 4.21 above implies that the contribution of the private sectors in collection activity of solid wastes within the sample sub-city was not satisfactory although 60.7 % the participants stated as there were private sector contributions in their sub-city.

Finally, item number 4 of the table 4.21 above reveals that 86.5 % and 13.5 % of the respondents respond "No" and "Yes', respectively that the current status private sectors involvement in transporting, dumping, and collection activities of solid wastes in the sub city. As majority (86.5 %) of household-heads of this study participants replied that "No", this implies that that in general sense, there was no private sector participation in transporting, dumping, and collecting activities of solid wastes generated from households and in different areas of the sample sub city of this study area.

In connection to this, one of the key informants replied that there were no or very limited community involvement informs of CSOs, NGOs, CBOs, and other similar groups concerning solid waste management delivery services within the sub-city. On this regard, few attempts was made by one of the private sectors namely Zebeder beer production industry found nearby sub city. This industry has maintained technologically advanced equipment for the purpose recycling wastes within its compound. In addition to this, the industry has recruited a number of employments to function of solid waste management"



Figure 4.3: A disposal area of solid waste observed by the researcher on the market place within the Tele area.

Table 4.22: The current status of community involvement in the implementation of solid waste management practices through integrated participations

Items	Variables	Frequency of the Responses of Household-head participants					
		Male		Female		Total	
		No	%	No	%	No	%
In Gubre sub-city municipality and sanitation, beautification and parking bureaus implemented integrated solid SWM practices?	Yes	18	20.2	29	32.6	47	52.8
	No	24	27	18	20.2	42	47.2
	Total	42	47.2	47	52.8	89	100

Source: Field Survey, 2020

The table 4.22 above reveals that 52.8 % and 47.2 % of the household-head participants said "Yes" and "No" to indicate the current status of community involvement in the implementation of solid waste management practices in an integrated approach within the sub-city. This implies that integrated approaches were less implemented in the solid waste management practices of this study area.

According a literature, institutional strength indicators were proper organizational set ups for responsibility, integrated participation between private and public agencies, sufficient and consistent contract between service providers, beneficiaries and the authority, and waste managing companies that are responsible to service reliability (UN-Habitat,2013; cited in Getinet Zemena,2016).

Yet again this finding is consistent with the literature (Hayal Desta, 2014) that reveals the lack of effective public participation and inadequate governance in the waste management system which is an institutional aspect of weakness (Getinet Zemena, 2016). Thus, respective body needs to encourage both individuals and private institutions to provide proper solid waste management service along with integrated approach and upgrading the required equipment to strengthen the service delivering system.

4.4 Qualitative Data Analysis

This part of the report deals with qualitative data presentation analysis. It presents and discusses the data collected through in-depth interview from 4 participants selected from Municipality and Health Office representatives; and some of the data obtained with the help of open-ended questionnaire from household head participants. In line with basic research questions and qualitative data gathering tools used, this section of the report organized into three different sub-sections.

The first sub-section discusses qualitative data associated with the existing level of community awareness about solid waste management practices within the sample study area. The second sub-section of the third section of the chapter deals with presentation and analysis qualitative data related to the status of encouragement supports made by different concerned bodies to enhance community involvement in solid waste management practices. The final sub-section of the third section deals with discussion and analysis of qualitative data assessed regarding the roles community in SWMPs in case of the sample selected sub-city of this study area.

4.4.1 Analysis of the existing level of community awareness about solid waste management practices

In-depth Interview Responses

The researcher interviewed one of the municipality officials by raising his guiding questions: Has the community got education on solid waste management? What are the approaches employed to teach the community?

For these questions, all of the key informants replied their responses as there were no education programs for community on solid waste management practices because the municipality had no finance, human and material resources for this purpose. Whenever necessary, informing residents on some of the areas solid waste management practices on different public meeting programs held on different time for other purpose or agenda.

Next to this the student researcher ha also raised related question: Does the community practically apply the education provided by concerned bodies? For this question, the key informant has provided his response stating: *'Except few numbers the most of the residents do not apply the information provided to them because most of the time they had no commitments on this regard.'*

To get more detailed information the researcher has also raised related question: How do you rate the current level of community awareness in the following areas of solid waste management practices? Listing down the following specific areas of solid waste management practices to identify whether or not communities have awareness on.

- In reducing illegal solid waste disposal practices
- In using proper methods in collection, transportation, storing and disposal systems of solid waste
- In following the rule and regulations of solid waste management practices
- In understanding the advantages of the existence of proper solid waste management practices
- In familiarizing themselves with the different stakeholders and their responsibilities within the solid waste management practice
- In developing personal, social and legal responsibility awareness of all individuals in accomplishing solid waste management activities

- In having updated information regarding the activity performances of solid waste management practices and its major strengths and weakness witnessed in the report
- In understanding the purpose of community involvement in solid waste management practices

For some of the indicators noted down supporting the question related with the current level of community awareness, almost the majority of the key informants interviewed replied good. This means the current level of community awareness in reducing illegal solid waste disposal practices, in understanding the advantages of the existence of proper solid waste management practices, in developing personal, social and legal responsibility awareness of all individuals in accomplishing solid waste management activities and in understanding the purpose of community involvement in solid waste management practices was good.

However, concerning in using proper methods in collection, transportation, storing and disposal systems of solid waste; following the rule and regulations of solid waste management practices, in familiarizing themselves with the different stakeholders and their responsibilities within the solid waste management practice and having updated information regarding the activity performances of solid waste management practices and its major strengths and weakness witnessed in the report most of the key informants rated the current level of community awareness poor.

Regarding developing personal, social and legal responsibility awareness of all individuals in accomplishing solid waste management activities, one of the key informants stated

"My answer is yes. This is because to some extent every member of the community can hold his/her responsibility and play role in enhancing the success in solid waste management in their community. When I say this community itself is one of the stakeholders of SWMPs, but not the key one. For me the key stakeholders are those appointed by the government and/or by assemblies of the local community and legally provided responsibility to act in such away. In such a case, I do not perceive myself as I am one of the key stakeholders in enhancing the success in solid waste management in their community. Whenever the other key stakeholders are being silent about my role and the role of others and they hold everything related to SWMPs by themselves, then I feel less responsible and I hardly participate in enhancing the success in solid waste management in my community. In contrast to this, whenever other key stakeholders openly introduce me and others issues related to SWMPs and what type of roles I and others will have and can play in the process, then I feel more responsible and even act as one of the key stakeholders."

On this regard, the research raised different investigation questions for different interviewees and starting from developing plans, having programs of awareness creation, working to create others enabling situations for effective community participation in solid waste management practices. One of the interviewed key participants stated the following:

“At municipality level, we have developed different long and short term work plans that expected to insure effective solid waste management. However, there are financial or budget constraints in our sub-city since, still now the sub-city has been allocated with necessary budget for this purpose. Without budget it is also difficult to provide these communities with different encouragement supports to enhance their contributions in the solid waste management of the sub-city. For example, preparing proposals and communicating on them which itself needs financial inputs as this requires human, time and other material resources.”

4.4.2 The extent of encouragement supports made by concerned bodies to enhance community involvement in solid waste management practices

Effective solid waste management requires conscious community members, actively involved in practice, hold government agencies and other concerned bodies accountable, clearly know and carry out responsibilities in development programs in general and in solid waste management, in particular. To this end, different concerned government bodies need provide different encouragement supports for their respective community members including living residents, various private sectors, and community based organizations, CSOs, NGOs and others.

To explore areas on which different concerned bodies have provided local community with necessary supports, the researcher has asked the question: Who are responsible for providing updated education to the community about solid waste management do you think? What are encouragement supports made to reduce possible challenges and thereby enhancing community involvements in solid waste management practices? By listing down the following specific areas to identify whether or not these supports have been given on.

- In developing community involvement framework
- In identifying the participants and stakeholders and sharing responsibilities
- In consulting the identified stake-holders on every detail of the proposed project of solid waste management practices
- In identifying the views and suggestions of different stakeholders and considering these views and suggestions when preparing solid waste management plans

- In allocating money specifically to help facilitate community involvement to pay for travelling expenses or costs involved in hosting meetings and inquiries

In addition to this, the student researcher has also asked the key informants related additional question 'what do you think are the expected responsibilities of different concerned bodies? For this question, the responses of the key informants were screened as follow:

There are different key stake-holders working within different governmental and non-governmental organizations. For example, municipality officials, Keble representatives, health office workers and environmental protection office experts are among the key stake-holders of SWMPs working within the governmental organizations. Each of these, among other things, need to play the following main roles:

- Identification of the problems related to SWMPS and conducting discussion with respective local community members for prioritization of these problems based on their negative social impacts and resource needed to resolve them;
- Formulating long and short term implementation plan to resolve the problem of SWMPs prioritized through mutual consensus of the community
- Ensuring that both the long and short term of the plan cover activity performance resources such as financial, human and material resources;
- Facilitating individual community members, different local private sectors, various GOs and NGO, CBOs, private sectors and different traditional institutions in order they effectively engage through whatever means they can in solid waste the management practice; and
- Preparing activity performance report on regular basis and presenting for discussion by identifying the major success and challenges of SWMPs in order to create awareness to different stakeholders and set future direction.

In addition to the key stake holders of the governmental actors, the respondents of open-ended questions have also replied that GOs and NGO, CBOs, private sectors and different traditional institutions practitioners are also another key stake holder who is required to contribute for effective solid waste management practices.

4.4.3 The Current Status of Community Involvement in Solid Waste Management Practices

In- depth Interview Responses:

In- depth Interview was conducted with four key informants of whom 2 of them were selected from the Municipality and the rest 2 participants were selected from the Health Office of the sample sub-city. The researcher present and narrate the responses of the key informant selected from the municipality and the responses of the key informant from health office as follow.

In- depth interview responses of the key informants selected from Municipality Office:
To assess the current level of community involvement in solid waste management practices, the student researcher presented the question: Are there community involvement in solid waste management practices in your sub-city? For this question, one of the key informants stated his response as follow:

"There were community involvements in the activities of solid waste management of our sub-city but not as required in the process. Very recently, however, there are some improvements regarding the contribution of the local community in the practice of solid waste management, particularly taking part in the nationally introduced campaign cleaning day. As this campaign was get concerns of the government of Ethiopia, it was carried out through the country of which our Gubre sub-city was apart. On this day, for example, an individual member of our community has taken and cleaned 20 meter radius personally. The campaign was introduced for the first time and new for our community. It is expected to be essential in shaping the attitude of the local community members and in enhancing their participation in SWMPs if it is performed continuously and sustainable. Except this and other few improvements made, the local community members of our sub-city did not play their expected roles in many areas of solid waste management practice of the sub-city."

Moreover, there were no or very limited community involvement informs of CSOs, NGOs, CBOs, and other similar groups concerning solid waste management delivery services within the sub-city. On this regard, few attempts was made by one of the private sectors namely Zebeder beer production industry found nearby sub city. This industry has maintained technologically advanced equipment for the purpose recycling wastes within its compound. In addition to this, the industry has recruited a number of employments to function of solid waste management"

In addition to this, the researcher also asked the same key informant by raising related question: What are the current status community contributions in preparing proper dumping places for the disposal solid wastes generated from the households? The informant replied his responses stating as follow: *Although the municipality is never been allocated with financial budget required for solid waste management practices, none emphasize was given to initiate community participation for the preparation of necessary dumping areas for solid wastes in*

this sub-city. As a result, regarding preparing proper dumping places for the disposal of solid wastes generated from the households, still now any contribution has not been made by the community and other non-governmental organizations. Even to prepare dumping places, most of the local community members do not properly use the seven maintained by government budget for the sub city mainly because lack of commitments. Consequently, there are many households who dumped solid wastes generated from their house everywhere." Where solid wastes generating from the households are more dumped do you think? The researcher interviewed by stating the following indicators of the possible solid waste dumping areas

- everywhere
- Land fill
- Open space
- Burning
- other

The response of another key informant from municipality stated as follow: *"The majority of the households merely dumped the solid waste generated from their house at everywhere and open places. Whereas very few number of households using burning mechanism."*

Consequently, the researcher asked related question: What do you think is/are the reason/s? By stating the following causal indicators:

- lack of awareness
- lack of commitment
- lack of SWBs
- due to all of these reasons, or
- other factors to specify

The same interviewee provided her responses again as follow: *"All can be the reasons for the households merely dumped the solid waste generated from their house at everywhere and open places. However, their degrees may be varied. For me, lack of commitments highly observed for the household's to dump solid wastes everywhere, and also for those dumped at open spaces. This is because except few proportion estimated, majority of the community members are aware of the negative impacts solid wastes improperly dumped every where at least on the health of humans and live stocks. Moreover, existence of limited number of garbage carts or solid waste bins within our sub-city may be one of the reasons for some of the household members who to some extent live far away from the available seven area solid waste bins within the city. However, as I have observed this factor seems to be less for the households to dump solid waste at everywhere and open spaces because majority the households are not*

willing and did not properly use for storing solid wastes the seven garbage carts or bins the sub-city currently has."

The researcher interviewed one of the municipality officials by raising his guiding question: Are there proper dumping places for the disposal solid wastes generated from the households in your sub-city? For this question, the key informant has provided his response stating: "*We have no the dumping places prepared by community participation but currently we are using seven garbage carts or bins as the initial places for storing the solid wastes collected from the households and these seven bins are provided by the Wolkite city as Gubre sub-city has no its own budget allocated for the purpose of solid waste management practice."*

The researchers interviewed a key informant who was from municipality. Concerning the status of community participation in the sub city in relation to management, technical, financial, administration and awareness creation in relation to solid waste management practices, the respondent stated that "The status of community participation in relation to solid waste management in the sub city is very low. Before I came to the present working position, this was one my question since I myself have never invited to take part in such activities by the then responsible bodies. Although I have full interests to resolve the problems associated with community participation in solid waste management practice, I have observed full of hindering challenges to enhance the role of community in the practice. One of the major challenges that caused for occurrences of another constraint is existence of very limited human, financial as well as material resources. To find out and facilitate interested non-governmental organizations, private sectors, CBOs, and the whole community members, we need technically skilled man powers who effectively identify areas of priority, formulate applicable work plans, set strategies and so on as their own main responsibility through taking enough time, finding and allocating necessary budget, creating awareness for different stakeholders. Moreover, still now the municipality has no its own necessary budget allocated for solid waste management practice in general and for the requirement of such human power, in particular. This and other similar constraints leads to very low community involvement and an inefficient service delivery regarding to solid waste management practice.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The main objective of this study was to assess the role of community participation on solid waste management practices by investigating the current status awareness, the level of encouragement supports made by concerned bodies. To address this objective, the study was guided by the following basic research questions:

- ✓ What is the existing level of community awareness about solid waste management practices?
- ✓ To what extent concerned bodies provide encouragement supports to enhance community involvement in solid waste management practices?
- ✓ What are the current status community involvements in solid waste management practice in sub-city?

The data was obtained from different 93 participants. Among the participants majority (89) were systematically selected from house hold heads from which quantitative data was collected with the help of the same questionnaire administered for this purpose. And the rest 4 participants were purposively selected from municipality and health office from which qualitative data was obtained using the same form of guided interview tool. The data was presented, analyzed and interpreted with the help of descriptive study design and narration method. The blends of quantitative and qualitative methods were employed for the purpose of deep analysis and understanding of the role of community participation on solid waste management practices in the study area. Based on the presented, analyzed and interpreted of the data, the following conclusions were drawn.

- Concerning the existing levels of community awareness, the majority of the residents were aware of the negative impacts of improper handling solid waste on human health and other socio-cultural and economic matters which may positively influence the reinforcement of solid waste management practices of the sample sub-city.
- In similar vein, the finding of this study reveals that most of the community members, to some extent, have understanding enable them reduce illegal solid waste disposal practices. In other words, most of community had no problems of awareness to protect themselves from an illegal solid waste disposal activity.

- The result of the study also reveals that most of the residents have understanding about the necessity of proper solid waste service delivery through effective solid waste management practice. This can positively affect solid waste management practice if the responsible bodies exert their efforts on facilitating community members to participate in solid waste practice.
- The existing level of community awareness regarding the strategies of solid waste collection, transportation, storing and disposal systems was found at low level since almost the majority of the respondents respond poor and very poor. Except very few numbers of residents, the majority the community members were not familiarized with the structural arrangements of institutions of the solid waste management practices in the sample Gubre sub-city. The wide ranges of community members are not familiar with different stake-holders and their responsibilities within the sectors of solid waste management practice. Furthermore, the result of the study indicates that majority of local residents were not properly know their personal, social, and legal responsibilities regarding solid waste management practice. This may lead an individual to poorly accomplish or fail to accomplish his/her expected roles. Moreover, the study results indicate that majority of the residents had no necessary understanding regarding the rule and regulations of solid waste management practices which more likely would have negative impacts on the activates of solid waste management of the study area.
- Different concerned bodies do not provide residents with update information regarding community participation in solid waste management practices. This can adversely affect the role of community participation on one hand and the activities of solid waste management on the other hand. The local residents were not given with necessary awareness about the activity performance of the solid waste management practice because different responsible bodies did not present and/or publicize the activity performance reports of solid waste management practices of the sub-city on regular basis. This can also negatively affect community mobilization process in enhancing the role community involvement in the efforts to ensure effective solid waste management practice of the sample sub-city of this study area.
- The level of contributions made by concerning bodies in identifying the participants and stakeholders and in establishing their legitimacy and representativeness and in consulting the identified stake-holders on every detail of the proposed project of solid waste management practices to provide them with relevant information which can be easily understood were poor and unsatisfied. Concerning bodies also did not properly

developed framework as early as possible to establish the scope, timing and resource requirements that support the process of community involvement in solid waste management practices. Furthermore, this implies that very less emphasis was given on developing the supportive frameworks with an intention to encourage community participation in solid waste management practices from the side of the responsible bodies which adversely affect the efforts of ensuring effective solid waste management practices as the government budget and efforts alone could not properly deliver solid waste management services that able to address the demand of the sub-city.

- The study result reveals that the current status of community involvement in solid waste management was not as expected. As it was indicated in this study, the local community contribution in preparing dumping site was unsatisfied and there is no or very limited participation of the community in contributing financial, material, and technical supports for the solid waste management practices of the sub-city.
- Furthermore, concerning awareness creation, this study finding reveals that although there are some of the residents who were involving in developing the understandings of themselves and that of the other individual members, the majority of the residents are not taking part in developing the understandings of themselves and that of the other individual members about the negative impacts of improper solid waste disposal practices on the human health and other socio-cultural life styles which adversely affect the solid waste management practice of the sample sub-city.
- Moreover, the finding of this study also indicates that the contributions of private sectors CSOs, CBOs and NGOs were not satisfactory and ineffective and integrated approaches were less implemented in the solid waste management practices of this study area.

5.2. Recommendation

The lack of effective community participation and inadequate governance in the waste management system can be taken as an institutional aspect of weakness (Getinet Zemena, 2016). Thus, respective body needs to encourage both individuals and private institutions to provide proper solid waste management service along with integrated approach and upgrading the required equipment to strengthen the service delivering system.

- ❖ It is essential to provide community with updating information about the rule and regulation of solid waste management, institutional structure of SWMP, and the

necessity of solid waste management for all living community members on a regular basis.

- ❖ Concerned bodies also need to develop community participation frame works and work plans based on evidences and in participatory ways or approaches and communicate with service users.
- ❖ Identifying the participants and stakeholders and establish their legitimacy and representativeness and consulting the identified stake-holders on every detail of the proposed project of solid waste management practices to provide them with relevant information which can be easily understood is also recommended.
- ❖ Moreover, the research has also recommended that concerned bodies need to create conducive working environment for CSOs, CBOs, NGOs and other private sectors in order to allow them participate in solid waste management practices and by acting in an integrated manner.
- ❖ In addition to the above suggestions and other similar remedies, local concerned bodies also need to facilitate community participation in contributing financial, material, and technical supports for the solid waste management practices and in preparing dumping site within the sub-city.

▪ **Limitation of the Paper**

Regardless of answering the basic research questions and thereby addressing the objectives of the study based on the proposed research activities, this paper has numerous limitations. First no more than two data gathering methods were employed in this study. Only questionnaire and in-depth interview guide were used to collect the required data. Another different data gathering methods such as FGDs was not conducted due to the occurrence the pandemic Covid-19. Even interview tools were conducted with only 4 key informants although the study require more potential participants from NGOs, CSOs, and public and private institutions and enterprises within the study area due to existence of different resource limitation. Second, no more complex statistical analyses were carried out to study relationships about the examined variables which can highly contribute to a more objective and accurate understanding of the phenomena. Therefore, further studies need to consider these and other possible limitations in the future.

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APPENDIX –A: Questionnaire for Heads of Households

Dear Respondents!

First of all I would like to thank for your willingness to give valuable information to the following question. These questionnaires are will prepare to gather the data for the research entitle the role of community participation on solid waste management practices. The final result of this study will be utilized for the academic purpose only. Moreover, make a sure that all the information you will provide will be kept confidential. So, you are kindly request to provide appropriate information as per as the questions. Your participation totally will be voluntary. Tick your answer for choices, and write answer on the space provided if you have some other answers apart from the given choices.

THANKU YOU FOR YOUR PARTICIPATION!!

PART ONE: - DEMOGRAPHIC CHARACTERISTICS

Instruction: In order to answer the following questions, put a tick mark (\surd) in the boxes provided in front of each of the alternative given under each question to indicate your best choice.

1. Sex: What is your gender?

1. Male
2. Female

2. Age: Which of the following year intervals properly indicates that between your current years old is found?

1. \leq 20 years
2. 21-29 years

3. 30-39 years
4. 40-49 years
5. ≥ 50 years

3. Educational level:

1. No formal education
2. 1-8 grade complete
3. 9-12 grades complete
4. Certificate and above

4. House ownership condition:

1. Keble rental house
2. Private rental house
3. Private house

5. Family size: What are the total number your family members?

- 1) 2 total members
- 2) 3-5 total members
- 3) 6-8 total members
- 4) ≥ 9 total members

6. Average monthly income (in birr):

1. Less than 500
2. 501-1000
3. 1001-1500
4. 1500-2000
5. Greater than 2000

Part Two: - Questions to assess existing community awareness about SWMPs and the role community participation on SWMPs

To rate community awareness on the following issues related to solid waste management practices, please put a tick mark (√) in the space provided in front of each of the statement to indicate your best choice among the alternatives **1-5** given (Use the following **Key** given for 1-5 response variables).

Key for response Variables: (1) =Very poor, (2) = Poor, (3) = good,(4) = very good, (5) =Excellent

No	Items	Response Variables				
		1	2	3	4	5
1	Awareness that help to reduce illegal solid waste disposal practices					
2	Awareness regarding the methods of solid waste collection transportation, storing and disposal systems					
3	Awareness about the rule and regulations of solid waste management practices					
4	Awareness about the negative impacts of improper handling solid waste on human health and other socio-cultural and economic matters					
5	Awareness about the advantages of the existence of proper solid waste management practices					
6	Awareness about different solid waste management practice stakeholders and their responsibilities					
7	Personal, social and legal responsibility awareness of all individuals in accomplishing solid waste management activities					
8	Awareness regarding the purpose of community involvement in solid waste management practices					

Part Three: Questions to assess the extent of encouragement supports made by concerned bodies to enhance community involvement in solid waste management practices

Please put a tick mark (√) in the space provided in front of each of the statement to indicate your best choice among the alternatives **1-5** given (Use the following **Key** given for 1-5 response variables).

Key for Response Variables: (1) = Satisfactory, (2) = Unsatisfactory, (3) = Fair, (4) = Poor, (5) = I can't decide

No	Items	Response Variables				
		1	2	3	4	5
1	To what extent concerning bodies develop a public involvement framework as early as possible to establish the scope, timing and resource requirements necessary to support the process?					
2	How do you rate the contribution of concerning bodies in identifying the participants and stakeholders and establish their legitimacy and representativeness?					
3	How do you rate the contribution of concerning bodies in consulting the identified stake-holders on every detail of the proposed project of solid waste management practices to provide them with relevant information in a form which can be easily understood?					
4	How do you rate the contribution of concerning bodies in allocating money specifically to help facilitate community involvement to pay for travelling expenses or costs involved in hosting meetings and inquiries?					
5	How do you rate the contribution of concerning bodies in identifying the views and suggestions of different stakeholders for the purpose of integrating them as input to prepare solid waste management plans?					
6	How do you rate the contribution of concerning bodies in planning through participatory approach to integrate views and suggestions of different stakeholders?					

7	How do you rate the contribution of concerning bodies executing events at a time and venue that will encourage the maximum attendance and free exchange of views by all interested groups?					
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Part Four: - Questions to assess the current status of community involvement in SWMPs

Please put a tick mark (√) in the space provided in front of each of the statement to indicate your best choice among the alternatives **1-5** given (Use the following **Key** given for 1-5 response variables).

Key for Response Variables: (1) = very low, (2) = low, (3) =I cannot decide, (4) = high,

(5) = very high

No	Items	Response Variables				
		1	2	3	4	5
1	To what extent community members are currently involving in different solid waste management practices?					
2	preparing proper dumping places for the solid waste generating from the households					
3	In developing solid waste disposal strategies and dumping the solid waste generated from the households					
4	In collecting and transporting solid waste through proper mechanisms					
5	In incinerating or burning solid wastes generated from the households on properly identified places					
6	In handling solid wastes generated from the households by using proper containers prepared for this purposes					
7	In contributing financial, material, and technical supports for the solid waste management practices of the sub-city					
8	In developing understandings of one self and that of the other individual members about the negative impacts of improper solid					

	waste disposal practices on the human health and other socio-cultural life styles					
9	How do well non-governmental organizations, community based organizations and private sectors are currently involve in solid waste management practices					

WOLKITE UNIVERSITY

COLLEGE OF SOCIAL SCIENCE AND HUMANITIES

DEPARTMENT OF SOCIOLOGY

APPENDIX- B

In-Depth Interview Guide for Municipality Officials and Health Office Experts

Dear Respondents!

First of all I would like to extend my great thanks for your willingness and unreserved commitments in providing accurate responses for all of the questions included in this in-depth interview guide prepared to gather the data for the research entitled "The role of community participation on solid waste management practices." The final result of this study will be utilized for the academic purpose alone and be sure that all the information you will provide will be kept confidential. So, you are kindly requested to provide accurate information for each question as much as possible.

THANKU YOU FOR YOUR PARTICIPATION!!

Section 1: - Demographic Characteristics

1. Sex:

1. Male
2. Female

2. Age: Please tell me how old you are:

≤ 20 years

21-29 years

30-39 years

40-49 years

≥50 years

3. What is your educational level?

1. No formal education
2. 1-8 grade complete

3. 9-12 grades complete

4. Certificate and above

4. What about the ownership conditions of your house?

1. Keble rental house

2. Private rental house

3. Private house

5. Family size: What are the total number your family members?

1) 2 total members

2) 3-5 total members

3) 6-8 total members

4) ≥ 9 total members

6. How do you estimate your average monthly income in Birr?

1. Less than 500

2. 501-1000

3. 1001-1500

4. 1500-2000

5. Greater than 2000

Section 2: In-depth interview questions to assess the existing level of community awareness about SWMPs:

1. Has the community got education on solid waste management?

2. What are the approaches employed to teach the community?

3. How these approaches are appropriate do you think?

4. Does the community practically apply the education provided by concerned bodies?

5. How do you rate the current level of community awareness in the following areas of solid waste management practices?

i. In reducing illegal solid waste disposal practices

ii. In using proper methods in collection, transportation, storing and disposal systems of solid waste

iii. In following the rule and regulations of solid waste management practices

iv. In understanding the advantages of the existence of proper solid waste management practices

- v. In familiarizing themselves with the different stakeholders and their responsibilities within the solid waste management practice
- vi. In developing personal, social and legal responsibility awareness of all individuals in accomplishing solid waste management activities
- vii. In having updated information regarding the activity performances of solid waste management practices and its major strengths and weakness witnessed in the report
- viii. In understanding the purpose of community involvement in solid waste management practices

Section 3: In-depth interview questions to assess the encouragement supports made by concerned bodies to effectively enhance community participation in SWMPs

1. Who are responsible for providing updated education to the community about solid waste management?
2. What are encouragement supports made to reduce possible challenges and thereby enhancing community involvements in solid waste management practices?
 - i. In developing community involvement framework
 - ii. In identifying the participants and stakeholders and sharing responsibilities
 - iii. In consulting the identified stake-holders on every detail of the proposed project of solid waste management practices
 - iv. In identifying the views and suggestions of different stakeholders and considering these views and suggestions when preparing solid waste management plans
 - v. In allocating money specifically to help facilitate community involvement to pay for travelling expenses or costs involved in hosting meetings and inquiries

Section 4: In-depth interview questions to assess the current status of community involvement in SWMPs:

Are there community involvements in solid waste management practices in your sub-city?

1. What is the current status of community involvement in solid waste management practice of the sub-city, do you think?
2. What are the status of CBOs, NGOs, CSOs, and private sectors participation in the sub city in relation to management, technical, financial, administration and awareness creation in relation to solid waste management practices?
3. Do you believe that the community can effectively manage their solid waste?
4. How do well non-governmental organizations, community based organizations and private sectors are currently involve in solid waste management practices
5. What are the current status of community involvement in the different activities of solid waste management do you think?
 - i. In preparing proper dumping places for the solid waste generating from the households
 - ii. In developing solid waste disposal strategies and dumping the solid waste generated from the households
 - iii. In collecting and transporting solid waste through proper mechanisms
 - iv. In incinerating or burning solid wastes generated from the households on properly identified places
 - v. In handling solid wastes generated from the households by using proper containers prepared for this purposes
 - vi. In contributing financial, material, and technical supports for the solid waste management practices of the sub-city
 - vii. In developing understandings of one self and that of the other individual members about the negative impacts of improper solid waste disposal practices on the human health and other socio-cultural life styles