



CHALLENGES IN URBAN INFRASTRUCTURE SERVICE PROVISION:

**THE CASE OF WATER, POWER AND ROAD SUB SECTOR IN HOSSANA TOWN,
SNNPRS**

**A Thesis submitted to the Faculty of Business and Economics, Department of
Public Administration and Development Management (PADM) in partial
fulfillment of the requirement for the Degree of MA**

By Assefa Lombeso

Advisor: Ealias Berhanu (Ph.D)

May, 2018

Addis Ababa

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ADDIS ABABA UNIVERSITY, FACULTY OF BUSINESS AND ECONOMICS
DEPARTMENT OF PUBLIC ADMINISTRATION AND DEVELOPMENT MANAGEMENT
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ABBREVATIONS

EDRI-Ethiopian Development Research Institute

GGGI- Global Green Growth Institute

PASDEP-Plan for Accelerated and Sustained Development to End Poverty

MOFED-Ministry of Finance and Economic Development

IUIISP- Integrated Urban Infrastructure and Service Plan

MOWUD-Ministry of Works and Urban Development

GTP-II- Growth and Transformation Plan part two

ULGDP-Urban Local Government Development program

SNNPRS-Southern nations Nationalities and Peoples Regional State

EEPCO-Ethiopian Electric Power Corporation

GIS-Geographic Information System

CSA-Central Statistical Authority

NGO-Non-Governmental Organization

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Abstract

This study is aimed at examining the urban infrastructure challenges and prospects of water, power and road sub sectors in Hossana town of Hadiyya Zone, SNNPRS. It was based on cross section data collected from 212 randomly selected households from 5 kebeles in the town. The information obtained was further reinforced by focus group discussion and supporting secondary sources from the institutions. The data collected was processed using SPSS version 21.

The findings indicate that the three subsectors infrastructure provided so far has been far from adequacy. The water subsector was rated more progressive, although nearly 50% of the respondent households have had no household level access. It was seen that 95% of the respondents have access for road of different quality. Compared to the other two sub sectors, the road subsector was found very much lagging, when rated for standard asphalt and cobble type road. Though 87% of the respondents have the access for power in one or another way, the capacity of the supplied power was found inadequate for utility with frequent power cuts. Moreover, the level of coordination among the sectors was found weak and the effort to ensure community participation in providing infrastructure was found limited.

Major challenges identified include lack of infrastructure finance, limited technical capacity, shortage of adequate sources of supply, topographic challenges, fairness, transparency and accountability problems limitation on following the master plan of the town, uncontrolled expansion of the town size and increased demand for infrastructure due to increased complexity of the economic and social services in the town.

The prospects analysis indicates that the water subsector would remain to be more challenging in the near future. The power subsector was under expansion but was found very sluggish in the process. The road sector was found dependent on external financial sources and need to mobilize infrastructure finance through community participation, improved transparency and accountability.

Key words: *challenges, coordination, infrastructure, prospects, urban, community participation.*

INTRODUCTION

1.1. BACKGROUND OF THE STUDY

Current scenario indicates that Ethiopia's urban population growth is among the highest in the world. Nevertheless the country is still one of the least urbanized in Africa. Addis Ababa is a single primate city which consisted of 30% of the countries urban population (Kassahun and Tiwari, 2014). Ethiopia's current urbanization level of 19% is projected to steadily increase to at least 30% by 2030 (EDRI and GGGI, 2015). Even if urbanization is low in Ethiopia, it is growing rapidly by African standard (Tegenu, 2010).

The rapid growth in population is a challenge as well as an opportunity to Ethiopia's effective management of urbanization. It is a challenge in a sense that it would increase pressure on infrastructure provision in the country in general and in urban centers in particular. It would be an opportunity through its influence on national market and labor force provision. The projected rate of growth of Ethiopia's population was 88 million in 2014; with the annual growth rate of 2.5% over this period. In the medium term, it is forecasted to grow between 2 and 2.58%, stabilizing at 1.6% in the long term (EDRI and GGGI, 2015).

The urban centers in Ethiopia have their own distinctive features. Some of them are located on hills for purposes of military strategy, and for their scenic beauty, the cities have tended to develop into service centers prior to becoming industrial centers, all due to the impacts of globalization, rather than first becoming industrial centers, then service and information centers, a process that characterized the earlier developed countries (Zelaul, n.d).

Recently, large and medium urban centers in Ethiopia have exhibited a remarkable growth in construction, manufacturing and tourism sectors. Naturally urbanization occurs as a result of industrial development with subsequent demand for labor and growth in demand for varied services and goods. It is also caused by push factors from rural areas mostly scarcity of agricultural land and job opportunities. Hence rural labour migrates to nearby urban areas in search of jobs (Kassahun and Tiwari, 2014).

National urban development policy was formulated and approved by Federal Council of Ministers in March 2005. The urban development policy, good governance and industry packages were developed based on the principle that cities should have an accelerating and encouraging role in local and national growth. Urban infrastructure development was part of the five years national Plan for Accelerated and Sustainable Development to End Poverty (PASDEP) for the years 2005-2010 (MoFED, 2006). By examining the policies, program and outcomes that lead to urban development, we observe a significant improvement in terms of job creation, housing provision and wealth creation in large and small urban centers. Moreover, the existing policies and strategies provide a framework for sustainable development (Kassahun and Tiwari, 2014).

Public investment in infrastructure is aimed at increasing the productivity and purchasing power of urban centers. Significant improvement is seen in investment along all lines of infrastructure in the country in general and urban centers in particular. The stock of road network is growing at an encouraging pace (Ibrahim, 2011). The Government of Ethiopia has been working to improve quality of life for urban dwellers and increase productivity of urban economies so as to ensure contribution from urban centers for growth of the national economy. Integrated infrastructure development plan plays important role to effectively guide and promote urban development.

But urban infrastructure is often subject to haphazard planning; disjoint implementation and poor installation management. Moreover, the provision of infrastructure is inadequate and poor in most of the urban centers and its development is lagging behind the population growth rate. Poor provision of infrastructures can lead to exposition of urban populations to health risks, limiting productivity through service cuts, increase in household and investor costs through property damage and increasing production costs through congestion, accidents and traffic jams (Werner and Than, 2007 cited in Admasu, 2012). Sustainability of urban infrastructure and integration in planning and implementation of the infrastructure is a challenge in most of the urban centers.

In general, major challenges in infrastructure provision are categorized under physical and technical constraints; economic and financial constraints; institutional and structural constraints (Solo, et.al, 1993). Similarly, governance and political economy of urban service delivery is a major concern to date. But what are the major challenges in the context of medium level

secondary urban centres such as Hossana town and what prospects do they have to ensure improved welfare for its dwellers and increase productivity in urban economic system? Questions of this sort need critical analysis through case studies. Hence, this study strives to evaluate major challenges in provision of infrastructures such as water, power and road in Hossana town.

1.2. STATEMENT OF THE PROBLEM

The government of Ethiopia has properly designed policy framework for urban infrastructure development and due emphasis has been given in urban development packages to create better urban centers that can contribute to the growth of National economy as well as improve welfare of their residents. There are improvements in the coverage of infrastructure in urban centres. The urban centers have been give different status in the governance system and are supposed to be self reliant in most aspects. Hence, there is competition among urban centers to perform better than ever.

Despite progress over the last two decades in infrastructure and services across all urban sectors, there is still much to do, even at today's level of urbanization. Most of the urban centers in the country still lack adequate public utility services especially power, water and road infrastructure. *The demand and supply gap* is large and provision is continuously lagging behind the urban population growth rate. This is mainly due to the fact that the increase in the number of urban population is high and capacity to provide the services proactively is limited due to many factors constraining the supply. Governance and political economy issues have important role in delaying and effective delivery of urban public services. Urban centres are failing to meet the demands of growing numbers of urban residents mainly in three areas: access to jobs, infrastructure and services, and housing. The infrastructure challenge is more pronounced in the water sector.

Population growth in cites will require many-fold increase in access to meet projected demand over the next two decades, and be funded almost entirely by municipal own-source revenues. This would remain to be a challenge because infrastructure and services are essential to building a strong business environment in cities, as well as making them attractive places to live and work. As is the case with employment opportunities, the challenge of providing infrastructure

and services is not just to meet current levels of demand, but also that of the rapidly expanding urban populations that are set to triple over the next two decades (Ozlu et al, n.d).

Although, Integrated Urban Infrastructure and Service Plan (IUISP) is in place (MoWUD, 2006) *the problem of integrated planning and implementation* among the sectors is common in many towns and the infrastructures are unsustainable due to quality and coordination problems. Urban infrastructure is often subject to haphazard planning; disjoint implementation and poor installation management. Poor design and installation practice and lack of timely maintenance is a major bottleneck to date. Moreover, cities master plan has not been succeeded in adequately guiding and controlling special and political commitment to strictly adhere to the plans has generally been lacking (MoWUD, 2006).

Destruction in utility lines, disruption, poorly developed physical infrastructure and poor coordination is still a problem. Improving quality of institutions and governance to consolidate development gains and work towards future program is essential.

Without *effective management*, Ethiopia's urbanization will remain to be a challenge, at all levels. Urbanization of this type, if unchecked, can result in an urban structure that is flawed in design with the result being inefficient, unsustainable and unequal (EDRI and GGGI, 2015). Problems of service delivery, delay in rehabilitation of old lines, lengthy institutional reforms are some of the problems observed in the power sector that deserve proper attention in GTPII (National Planning Commission, 2016).

An independent urban infrastructure study conducted in 2013 indicated the significant gaps in services and infrastructure in essential core urban services and infrastructure water supply, roads and sanitation in Addis and 18 other cities, which include Ethiopia's largest urban areas. Level of access in 19 major towns can show the supply gap. Water (59.1%); paved road surfaced with cobble and asphalt (22.8%) Source ULGDP II, 2014).

Observations indicate that the public at large complains at low level provision and coordination among the service providers. Besides these, the quality of the service is regularly criticized by the public at large. Major challenges in provision of such services at sub national levels are not clearly investigated. This research worth investigation in Hossana town due mainly to two reasons: There is large number of rural urban migrants in the town due to the fact that there are

many migrants to South Africa from the each and every rural household in Hadiyya zone. Moreover, the remittance flow has created housing demand more than ever indicating that the town is expanding beyond the normal pace. Hence the demand side is critically increasing. On the other hand the supply of road and power infrastructure is found stagnant and poor which is complained frequently by residents. The water subsector is responsive to some extent but due to constrained supply sources, its prospects would remain to be a challenge from the researcher's experience in the study area. Hence, this study intends to examine major challenges in Hossana town infrastructure service provision vis-a-vis power, water and road sectors and identify opportunities for improving the access and quality of the services and collaboration between the private and public actors. Hence, basic questions to be addressed in this research will be:

1. What is the existing condition of power, water & road infrastructure provision in Hossana town?
2. What are the key challenges in provision of the selected urban infrastructure services in Hossana town?
3. How integrated are the provisions among the three sub sectors?
4. How can the public-private collaboration be ensured for better delivery of the services?

Hence, the major purpose of this study is to identify the factors challenging the provision of basic urban public utilities and examine the prospect there of in Hossana town so that improvement in welfare of the resident be ensured and productivity in urban services increased.

1.3. OBJECTIVES OF THE STUDY

1.3.1. GENERAL OBJECTIVE

The study analyses the major challenges and prospects of public service provision in Hossana town along water, power and road infrastructure services and investigate prospects of improvement in such services for better welfare of residents and productivity employment of urban resources.

1.3.2. SPECIFIC OBJECTIVES

- To investigate the coverage and condition of power, water and road infrastructure in Hossana town
- To identify major challenges and prospects for the provision of the services in the town
- To assess the level of integration among infrastructure service providers for optimal use of resources
- Examine community participation patterns for the identified service provision.

1.4. SCOPE OF THE STUDY

The scope of this study is to analysis of the demand and supply gap in urban infrastructure provision specifically on the water, power and road subsectors in Hossana town, using cross section data collected from the town residents and focus group discussion. The focus of the analysis was on identification of prevailing challenges in the three subsectors, the level of coordination among the suppliers in the planning and provision of the infrastructure, the level of community participation in ensuring the infrastructure provision. Hence, this study did not consider the other aspects of urban infrastructure such as social infrastructure provision, the drainage infrastructure and telecommunication infrastructure system etc...in the town.

1.5.SIGNIFICANCE OF THE STUDY

The study intends to contribute to the urban stakeholders' understanding of the major constraining factors behind adequate provision of urban infrastructure supply and promotes coordinated action in infrastructure planning, implementation and joint monitoring. The study contributes to the identification of public- private collaboration mechanisms in the supply of urban infrastructure. It would also contribute to municipality agents to plan properly for improving efficiency in infrastructure provision. Hence, the findings of this research would facilitate informed decision making in urban infrastructure provision and governance in local government level and helps in solving operational and planning problems.

1.6. LIMITATION OF THE STUDY

The study is limited to the analysis of selected infrastructure in Hosanna town and will not by any means be a comprehensive survey of urban centre challenges. The analysis does not include equally relevant challenges in urban centers such as urban poverty and unemployment etc...

Institutional sources of information used were inadequate due to absence of data especially on road sector and power sector information and lack of willingness of municipality and related institutions to provide relevant data.

1.7. ORGANIZATION OF THE STUDY

The background of the study includes introduction, statement of the problem and objective of the research. Chapter two consists of the review of related literature. Chapter three consists of Methodology of the study. Chapter four consists of finding and discussion of the research and the fifth chapter gives conclusion and recommendations.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

This portion of the proposal examined some of the definitions and theoretical basis for urbanization and infrastructure development and major related empirical articles studied by authors in the field. Hence part one consists of the theoretical literatures and the second part deals with an overview of what has been done so far on the specific area of the research interest at hand.

2.1. Theoretical Literature Review

Definition of some terms as given in Integrated Urban Infrastructure and Service Planning Manual (NPC, 2016) are as follows:

Road means any public thoroughfare whose primary purpose is the conveyance of vehicular and non vehicular traffic. Water supply includes the source of water, treatment plant, reservoir and tankers, the main trunk lines, distribution lines and individual connection lines that are laid for the delivery of potable water. Electric network includes a system of lines of wires/cables (low, medium and high tension lines), transformers, and sub- stations, electric generation stations (hydro power, thermal power, etc) for the supply of electric power to different urban functions.

Cooperation denotes the willingness to work together in order to meet common objectives, which is achieved through the good will of stakeholders in the development of infrastructure and services without any guiding procedures, rules and regulations. *Coordination* is to harmonize a common action or to create a harmonious interaction among the stakeholders that are involved in infrastructure and services development. It is achieved based on the adoption of certain procedures and guidelines. *Integration* means bringing together into one. It requires both cooperation and coordination in order to work. It also calls for the existence of a single formalized decision making system and the procedures that facilitate the existence of such a system. Integration potentially allows for more effective and efficient use of resources in order to achieve a given set of objectives.

Infrastructure: is defined to denote the hard component that comprises all systems of urban physical structure that are mainly laid under the ground (e.g. water mains) and on the ground

(e.g. roads) or above the ground (e.g. telephone and electric lines) to provide public services. Infrastructure in the context of this manual includes roads and drainage, utility lines (water supply, electricity, telephone) and facilities such as public transport terminals, garages...etc. Services are facilities such as surface of air transport terminals, parking lots, interchanges, connections, etc. that are directly related to infrastructure. Level of infrastructure indicates the hierarchy of infrastructure which is delivered or managed at a specific level: macro level and micro/local level. *Integrated Infrastructure* denotes a state of affairs whereby different infrastructure interventions are planned and implemented in a balanced manner relative to one another and to the urban functions they are supposed to serve.

Classification of Urban Centers

NPC (2016) classifies urban centers as follows:

The situation and type of problems in cities and towns differs due to various reasons. Looking into urban levels seems appropriate and important so as to have a better picture of the problem at different urban levels and to design relevant strategies and standards. In light of this, the manual adopts the classification of Ethiopian urban centers under five levels: Small Towns - with 2,001 - 20,000 population; Medium Towns - with 20,001 - 50,000 population; Large Towns - with 50,001- 100,000 population; Cities - with 100,001 -1,000,000 population; Metropolitans - with more than 1,000,000 population

Definitions of city by categories were given by ((EDRI and GGGI, 2015) as follows:

Metropolis (capital) city is the highest order settlement including global cities with a population of more than 5 million, but in a national context will refer to Addis Ababa as it serves the highest order functions such as the seat of government, the economic powerhouse and centre of culture. Within a Metropolis (capital) city, municipal governance may be devolved to some extent to sub-city levels of organisation with local influence on some issues such as zoning, form of service provision (for example waste collection frequency) and municipal taxes.

Regiopolis (primary) cities include all nine Regional capital cities and Dire Dawa. These cities may specialise or focus on a lower number of economic activities and have a level of

infrastructural organisation and complexity mostly focused within the urban core or downtown area.

Secondary cities are defined as the 18 cities that will participate in the ULGDP capacity building component only. These cities are currently regionally important settlements, but in the future may evolve in size and prominence to Regiopolis (primary) city status. Secondary cities may eventually be specialised cities focused on a key economic activity or be defined by a nationally importance piece of infrastructure, such as a special economic zone, or a prominent university.

Tertiary cities are distinguished as those 41 remaining cities/towns with a population of 20,000 or more. Tertiary cities function as access points to infrastructure and economic activities within zones and will feature developed areas for commercial and light industrial activities, but mostly are designed around residential needs.

Urban villages are those settlements identified as towns or urban agglomerations in the 2007 CSA census that have a population of 19,999 or less. These areas may have no clear zoning and instead be communities that have grown organically from areas that were previously rural. Provision of services and infrastructure will generally be low, though some level of self-organisation of economic activities may be apparent, with for example, a street or promenade of commercial activity.

A sustainable city could be defined as a city in which the population enjoys a high quality of life and which takes care not to transfer socioeconomic and environmental or health problems to other places or future generations. Sustainable development seeks to deliver basic environmental, social and economic services to all residents of the community without threatening the viability of the natural, built and social systems upon which the delivery of these services depends. Above all, the main characteristics of sustainable development, as stated in the European Union's Fifth Environmental Action Program are: to maintain the overall quality of life; to maintain continuing access to natural and built resources; and to avoid lasting environmental damage (Kabir, 2006).

DfID (2015) briefly explained urban infrastructure in Addis Ababa as follows:

Water supply & sanitation

According to Addis Ababa Water and Sewerage Authority, the physical water reticulation system covers almost 100% of the city's area, but only about 67% of the water demand can be satisfied due to bulk water supply constraints. This is a substantial reduction from the figure of 90% of demand which could be covered in 2007. The supply has not been able to keep pace with the rapid increase in demand caused by the increase in urban population and growing city economy.

The reticulation also suffers as there are frequent pipe breakages associated with the extensive construction work in the city. Partly for this reason and partly through lack of capacity to manage and maintain the system effectively, non-revenue water amounts to between 37 and 40%.

Electricity

The level of access in Addis Ababa is approximately 97%, although this does not take into account the intermittent supply. The electricity infrastructure is not sufficient to meet the ever growing demand. For the country as whole electricity generation capacity in 2010 was almost 4,000 GW with energy consumption at a very low 51 KWh per capita. Distribution losses are estimated at 23%, mainly due to poor network design and maintenance.

Roads

The main distributor roads in the city and the ring road are in a good condition. The lower level roads in the city vary in condition, with the majority in need of maintenance or upgrading.

A feature of Ethiopian streets is the use of hand-cut cobbles as a road surface. There is a successful and large scale employment program associated with the making of cobbles and laying of cobbled streets.

Infrastructure challenges

The rapidly urbanizing and modernizing population has placed heavy demand for services on the respective City Administrations which have not been able to deal with the rapidly increasing demand for services. Therefore there is an inadequate supply of water and electricity and there are major concerns over poor sanitation access, particularly for the poor. Further, infrastructure maintenance is often neglected - as the focus is on creating new infrastructure to provide services - further adding to the backlog. However, the availability of finance to build new infrastructure

has meant that the capacity of the systems are expanding rapidly and, in the case of roads and transport specifically, there are major new infrastructure initiatives in Addis Ababa (DfID 2015).

THEORIES OF URBANIZATION

Four major theories have been discussed by (Peng et al, n.d) which provide both earlier and recent explanations for why and how urbanization occurs. These include:

Self-generated or Endogenous urbanization: This theory suggests that urbanization requires two separate prerequisites—the generation of surplus products that sustain people in non-agricultural activities. Peng et al explained the theory having mentioned sources such as (Childe, 1950; Harvey, 1973; Lampard, 1965; Wheatley, 1971; Pred, 1977) and the achievement of a level of social development that allows large communities to be socially viable and stable. From a long temporal perspective, these changes took place simultaneously in the Neolithic period when the first cities emerged in the Middle East. A much later period in which these two preconditions interacted strongly was the late eighteenth century when the rise of industrial capitalism led to the emergence of urban societies in Great Britain, North-West Europe and North America.

In a demographic sense, this theory focuses on the rural-urban population shift as the foundation of urbanization but it identifies *industrialization as the basic driver* behind the movement of rural population to urban areas for factory jobs. Besides the authors cited above, this theoretical tradition was enriched by scholars like Kinsley Davis in the 1950s through the 1970s (Davis, 1972 cited in Peng et al, n.d).

Modernization Theory: The second theory on urbanization emerged from a broader theoretical school known as the modernization theory that became prevalent and influential from the 1950s through the 1970s. While overlapping with the first theory in the timing of development, modernization theory had a wider set of assumptions and scope of influence. Looking at urbanization through the lens of modernization, first, the present state of urbanization in any given society is set by its initial state at the onset of modernization. Secondly, technology is fundamentally more important than a society's social organization in shaping urbanization.

Finally, the path and pattern of urbanization within and between developed and developing countries are most likely to converge through cultural diffusion, despite breeding inevitable social disequilibria (Kasarda and Crenshaw, 1991 cited in Peng et al, n.d).

Modernization theory would view subsequent developing-country urbanization as being driven by industrialization, technological progress, information penetration, and cultural diffusion.

This optimistic prospective view was very developmental in heralding the more positive outcomes of accelerated urbanization in the developing world, but only to be challenged by the more depressing reality of economic and spatial inequalities, as well as other social problems from urbanization in poor countries. As modernization theory failed to account for both the conditions and consequences of urbanization in developing countries, it opened the door to a compelling theoretical alternative.

The Dependency/World-system Perspective on urbanization: Advanced by (Frank; 1969; Wallerstein, 1979; Goldfrank, 1979 cited in Peng et al, n.d) dependency/world-system theory links recent changes in the roles and organizations of the economies of developing countries to the growth and extension of capitalism in the capitalism world system. From this world-systemic perspective, urbanization can be seen as an internal location response to global economy.

View from the dependency/world-system perspective claim that urbanization in developing countries, to the extent it occurs and at what speed, is a major spatial outcome of *global capitalism and its own spatial organization*. This is an inherently uneven process leading to geographic disparities between urban and rural areas and between cities, particularly so if taking into account the unequal conditions at the start of urbanization. This powerful insight from the 1970s laid the ground work for a more systematic global perspective on urbanization, especially on the rise of networked world or global cities in the 1990s and beyond.

The Global City Perspective this may be prompted geographer John Friedmann to advance a research agenda for world cities in the early-mid 1980s (Friedmann, 1986; Friedmann and Wolff, 1982 cited in Peng et al, n.d), suggesting that world cities are a small number of massive urban regions at the apex of the global urban hierarchy that exercise worldwide control over production and market expansion. With their global control functions directly reflected in the structure of

their production sectors and employment, world cities also are major sites for the concentration and accumulation of international capital. This new focus on world cities marked a theoretical extension from the world-system perspective by highlighting the study of individual or *a network of cities* for understanding broader urbanization trends and tendencies.

While not a theory on urbanization in the same sense as the other theories, the global city perspective has moved the theorizing of urbanization both backward and forward to explicating the historical and contemporary relationship between industrialization, urbanization, and globalization.

2.2. Empirical Literature Review

Literature in the study area specific to town level infrastructure challenges were found meager and the investigations made were not published in journals. Hence not dependable as such to include in the study. Meanwhile, the following articles were identified in the search for related literature made along urban infrastructure provision lines through accessing internet sources. I could not find it relevant to show separately for the three areas of my investigation such as Power, water and road sub sector. Most of the studies confirmed the supply shortage in infrastructure to meet growing need of the urban population. The studies suggested recommendations extending from policy reform to improvement in planning and cooperation among the sectors. Few of them have examined the following areas:

Tiwari (2016) examined types of urban infrastructure which were popularly investigated together with the cities. The review attempted to synthesize the unique characteristics of Ethiopian cities in form of their infrastructure abundance. Urban infrastructure and services considered by the researcher include: physical infrastructure such as road, energy, drainage system, water supply and sanitation, green infrastructure, solid waste management infrastructure, ICT, social infrastructure by focusing on organizational and governance issues.

Kitila (2015) studied sectoral integration of urban services of Dire Dawa, along the lines of planning approach, challenges in implementation and effects of poor coordination in four urban sub sectors namely water supply, telecommunication, transport and electricity. The findings indicated that cross sectoral planning approach has not yet been adopted and implemented due to administrative(political), economic and social factors. Hence major factors identified for the

less likely performance include: weak institutional arrangements; lack of budget; lack of monitoring, poor coordination among sectors. The study recommended cross sectoral planning approach.

EDRI and GGGI (2015) suggested that in Ethiopia, policy makers need to link the GTP II with a range of critical urban development choices that define what urbanization means for economic geography of Ethiopia. The study suggested explicitly linking Ethiopia's economic and special strategies; the identification of strategic growth corridors linked to targeted economic functions; the number and hierarchy of urban centres, the infrastructure demand that supports this, including power, water, information systems, and transportation and how to deliver this in a neutral urban system that is competitive, socially, economically inclusive, climate resilient and environmentally effective.

Kassahun and Tiwari (2014) examined the role of policies and institutions in addressing the developmental challenges of urban cities in Ethiopia- highlighted the importance of improving the quality of institutions and governance to consolidate the gains of growth. Large and medium urban centres have exhibited a remarkable growth in construction, manufacturing and tourism sectors. The policy outcomes include decentralization, micro and small scale enterprises development, housing development, urban land management system etc.... They observed significant improvement in these policy outcomes especially in terms of job creation, housing and wealth creation in urban centres.

Besha (2013) investigated the Assosa Town drainage infrastructure provision in Ethiopia, its coverage and management system using primary data collected randomly from 150 inhabitants in Assosa Town. The researcher found out that the rate of integration between all roads and drainage network to be 53.6% and the existing condition was poor with frequent street flooding and sever environmental problem. The study suggested close coordination of stakeholders and collaboration between private and public sector for management of the system. The study concluded that urban drainage system is a challenging problem in most of emerging towns of Ethiopia.

Another study by **Admassu (2012)** tried to identify the problem and options for the provision and financing of water supply and sewerage in Bahir Dar through examining infrastructure provision

and adequacy. Limited revenue, backward service provision, limited and traditional sources of finance, loss of water, collection inefficiency of user charges, non standardized land use planning for infrastructure service provision, failure in applying existing rules etc..., and recommended to increase water sources, water lines, replace old infrastructure, revising existing financial approach, efficient monitoring system and work to create close relationship with stakeholders.

Peng et al (n.d) in the urbanization and its consequences volume showed picture of urbanization, reviewed urbanization theories and their prospective pros and cons. Accordingly, urbanization was expressed as not monolithic or one-dimensional. Urbanization individually and collectively produces macro and micro impacts on society and everyday life. It is not always possible to fully disentangle the mutual causality between urbanization, population growth, industrialization social transformation etc... It is forever important and necessary to identify a range of significant consequences of urbanization. Among the many consequences, they examined the consequences on environment, job creation, housing education and health etc...

Tegenu (2010) examined the causes, patterns, consequences and policy implications of the ongoing urbanization in Ethiopia. The study examined the driving forces behind rapid urbanization in Ethiopia, the economic aspects and characteristics of urbanization; effect of rapid urbanization on employment, public service provision and special organization of towns and concluded by suggesting appropriate developmental strategies.

Foster and Morella (2010) on the article Ethiopia's Infrastructure, a continental perspective analyzed the contribution of infrastructure to Ethiopia's annual PC GDP growth which stood at 0.6%. The study indicated that the country has made significant progress in infrastructure. It has launched ambitious investment program to upgrade network of trunk road and is establishing a modern funding mechanism for road maintenance. Similarly access to water and sanitation is expanding rapidly. The study indicated that the country's greatest infrastructure challenge lies in the power sector, where a further 8700 Megawatts of generating plant will be needed over the next decade- a doubling of the current capacity. Another key challenge is to improve Ethiopia's low level of rural accessibility and ensuring adequate maintenance of recent investments in the sector.

Ethiopia's effort to create access to improved water and sanitation is rising rapidly. However, water utilities continue to generate large hidden costs indicating that the sector has made little progress on institutional reform agenda.

Nyarirangwe (n.d) the article harnessing the utilities of urban infrastructure asset management in Ethiopian cities examined the challenges and opportunities in that current effort to digitalize the cities systems through GIS for effective infrastructure provisioning. The paper evaluated the current practice, policy framework, existing challenges and potential opportunities that can be utilized through urban infrastructure asset management. According to the findings from the article, the main problems affecting infrastructure provision in Ethiopian cities are twofold: Firstly, the Government, which is the main funder of the infrastructure projects, is faced with serious budgetary constraints; secondly the sectors responsible for the projects are characterised by major capacity challenges regarding the planning and implementation of the projects.

Solo (1993) examined the constraints that can hinder the provision of water and sanitation to urban informal settlements under four sub headings: Physical and technical, economic and financial, institutional and structural. Under physical and technical constraints difficult sites and terrain, layouts of towns, over reliance on conventional service delivery etc were included. Economic and financial constraints included the high cost of water and sanitation to low income families and the shortage of capital for investment were analyzed. Institutional constraints were primarily result of ineffective public work system which is complicated and disorganized. Structural constraints involved conflicting values and policy view points.

From the analysis of related literature above, we can realize that only few studies were engaging directly in the analysis of infrastructure problems in urban centers. Limited studies on contribution of infrastructure, governance structure, on causes and consequences of urban development and urbanization, role of policies and institutions, urban development choices and development corridors, water and sanitation challenges, drainage infrastructure studies have been done by some authors. This shows that there is a need to investigate area specific challenges through problem solving research.

Most of the findings from the above studies indicated that governance and institutional constraints were critical challenges in the provision of the infrastructure and the services there of.

More vividly seen is cross sectoral coordination failure in provision of the services. Causes and consequences of the deficient infrastructure provided in urban centers were examined in little depth from the studies. Option for alternative provision of the services, optimal choices in providing the services were deficiently investigated in the studies.

Hence, the research in integrated infrastructure provision in Hossana town can help fill the gap in such investigation at secondary level towns. More articles will be included in the main document to enrich the literature review.

CHAPTER THREE: METHODOLOGY OF THE STUDY

3.1. The study area:

Based on the 2007 Census conducted by the CSA, Hadiya Zone has a total population of 1,231,196, of whom 612,026 are men and 619,170 women; with an area of 3,593.31 square kilometers, Hadiya has a population density of 342.64. While 134,041 or 10.89% are urban inhabitants, a further 157 individuals are pastoralists. A total of 231,846 households were counted in this Zone, which results in an average of 5.31 persons to a household, and 223,403 housing units. The four largest ethnic groups reported in Hadiya were the Hadiya (90.04%), the Kambaata (1.96%), the Gurage (1.53%), and the Amhara (1.32%); all other ethnic groups made up 5.15% of the population. Hadiya is spoken as a first language by 90.94%, 2.24% spoke Amharic, and 1.94% spoke Kambaata; the remaining 4.88% spoke all other primary languages reported. 75.35% of the population said they were Protestants, 11.13% were Muslim, 8.45% practiced Ethiopian Orthodox Christianity, and 4.31% Catholic (From Wikipedia, the free encyclopedia)

In 1910 Hossana became the administrative centre of the province of Hadiya. The town was occupied by the Italians on 11 February 1937. By 1958 Hossana was one of 27 places in Ethiopia ranked as First Class Township. Hossana town is one of the oldest towns in SNNPRS that was established as a municipality in 1942 (Getabicha D., 2015). Hosanna currently is one of the nineteen reform cities of the SNNPR. Hosanna, which has an older name Wachamo is a town and the administrative centre of the Hadiya Zone (Wikipedia Encyclopedia). It is the administrative and trading centre of the Hadiyya Zone and is one of the reform towns in SNNPRS.

It is located in South West of AA at a distance of 232 KMs. It is located 168 KMs away from the regional capital for SNNPR, Hawassa. Hossana town has three special linkages with regional high ways: AA-Ziway in the North East; Shashamane-Soodo Arbaminch in the South and Wolkite-Jimma in the Northern direction. It comprises three sub-cities and 8 kebeles. Geographic location is 7°33 North latitude and 37° 51, East latitude. Administrative area of Hossana town is 10414 hectare of which 4585.8 hectare has been well master planned. The projection of total population 2010 was 45,307 male and 43,944 female population (CSA, 2010, cited in Getabicha

D., 2015). The altitude of the town ranges from 2340 masl. to 2435 masl indicating that it is a highland climate (Getabicha D., 2015).

Hadiyya zone in SNNPRS

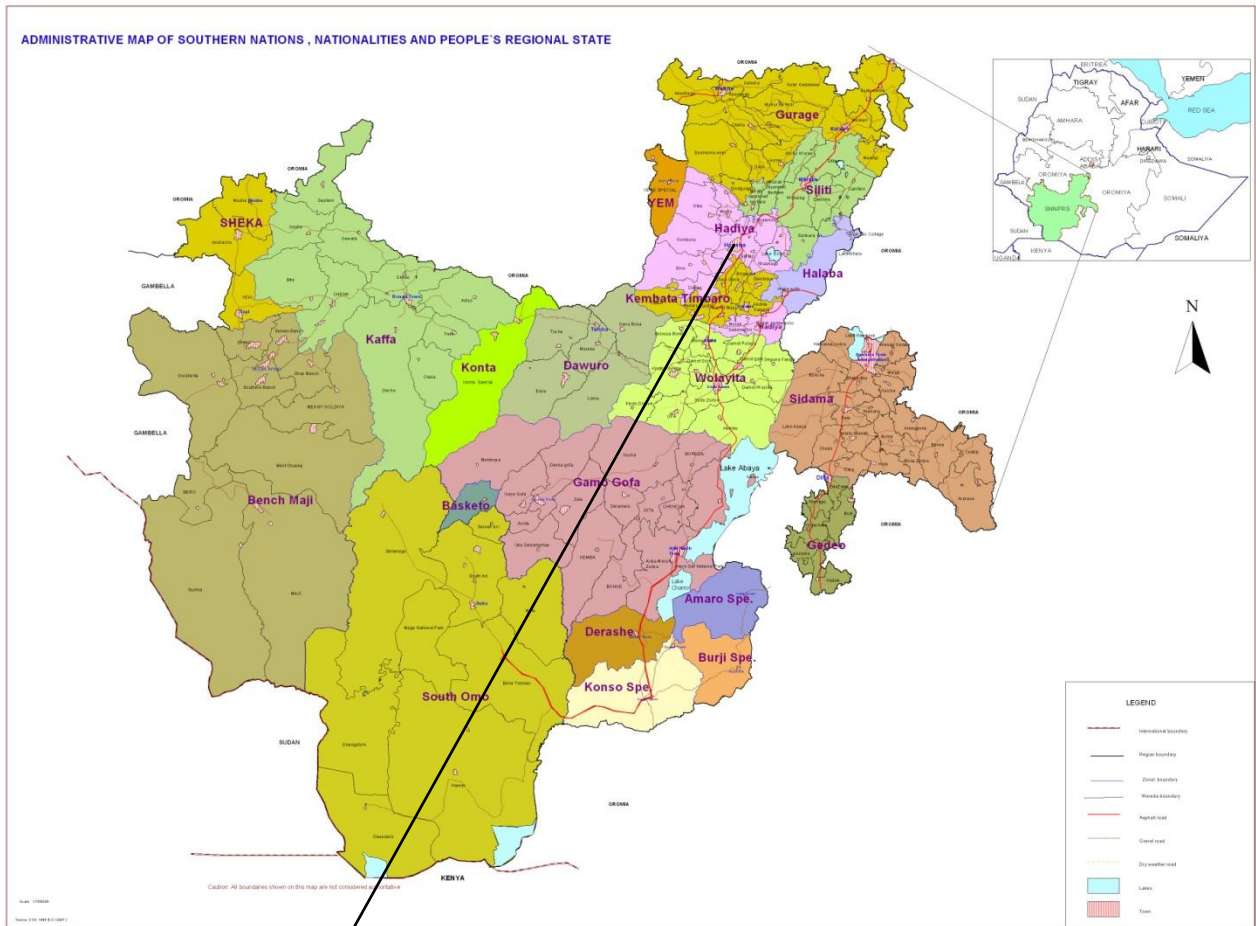


Fig. 1 Haddiya Zone in SNNPRS for which Hossana town is the capital

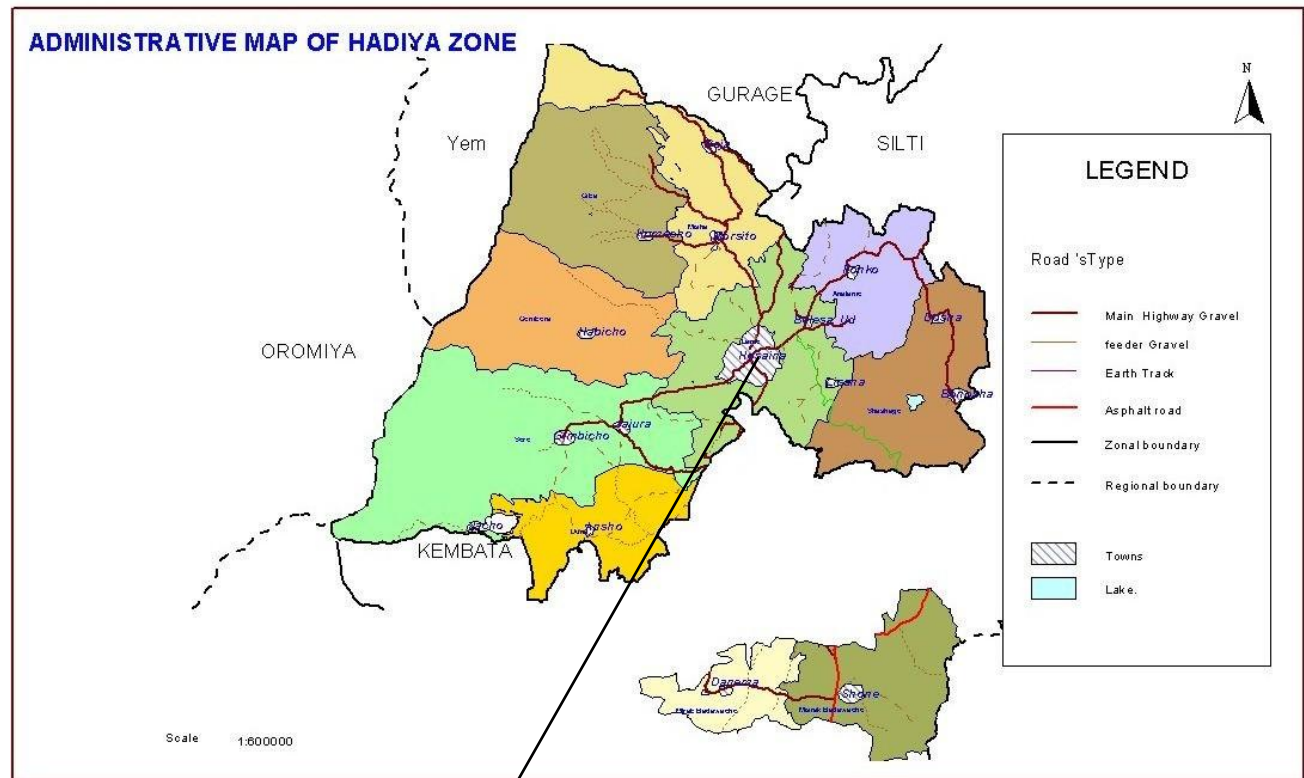


Fig 2. Hossana Town in Hadiyya Zone: The study area.

Haddiya Zone woredas.

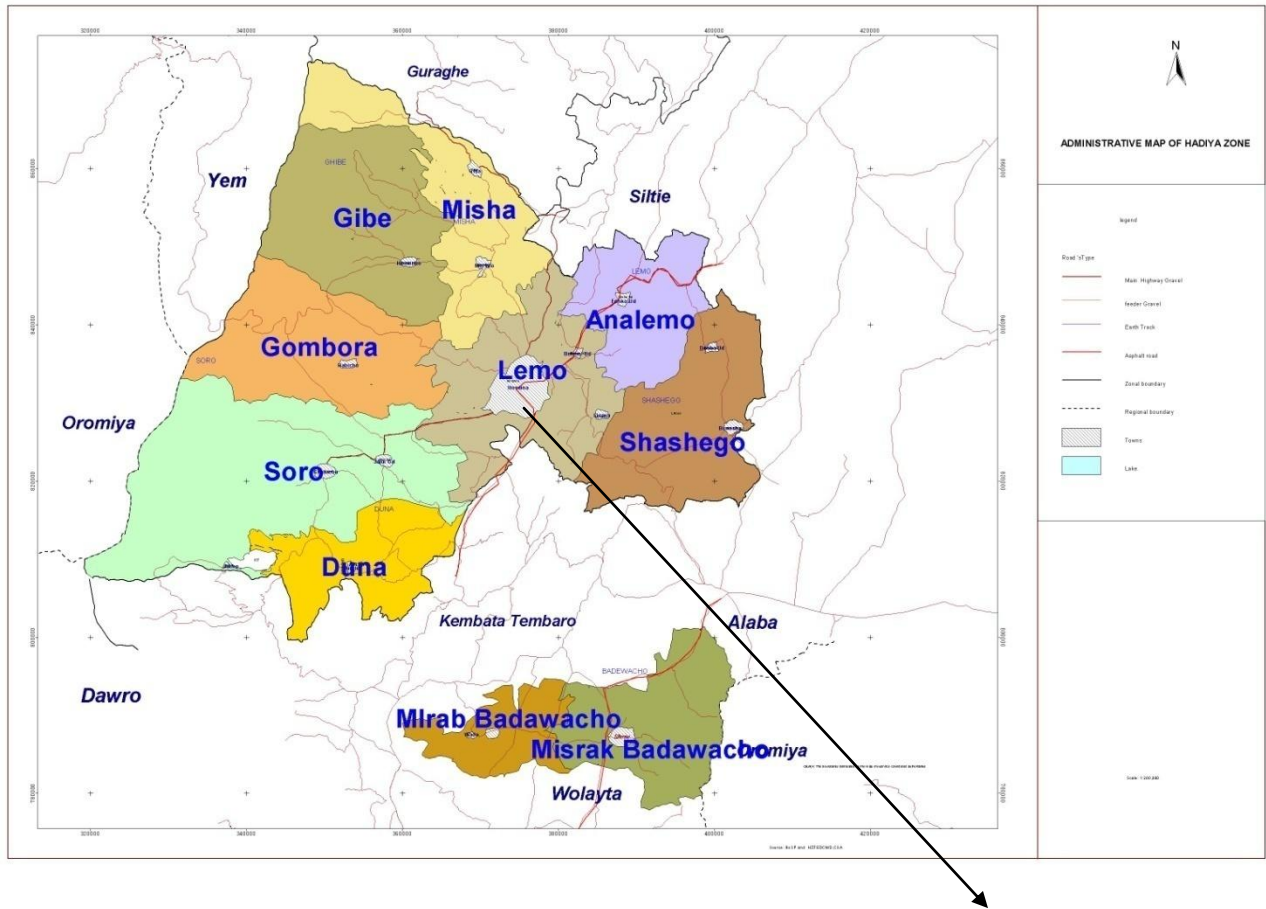


Fig. 3. Hossana town

3.2. The Research Design

This is a research analyzing the challenges of urban infrastructure service provision in Hossana town. It is a case study based on Hossana town water, power and road infrastructure provision. It is based on field survey of the condition and primary data that was collected from providers such as district EEPCO office, Water supply authority and the zonal water department and municipality and community user. It examines the current condition and integration among the three sub sectors; community and business group's role in addition to the main providers' role with the objective of identifying the challenges and prospects in the service provision.

The research is descriptive in its nature as it attempts to identify the situation of infrastructure challenges and prospects in the study area in order to inform relevant stakeholders in addressing the issue in an integrated manner for ensuring better welfare to urban dwellers and increasing productive efficiency in urban economic engagements. It employed both quantitative and qualitative data enquiry methods. Qualitative data was used to explore attitudes of customers on the challenges, prospects, distributional aspect and quality of the service provision. The population under investigation is urban household heads in Hossana town.

3.3. The Sampling Design

This is a descriptive survey data based study which uses collected based on probability sampling method. The population of study includes Hossana town urban households and the study uses randomly selected sample households. The sampling procedure used was two stage simple random sampling. First appropriate kebeles were selected randomly from the tow, followed by sample household selection.

3.4. Sample size Determination

A sample size of households that were administered was 241 and the distribution was made according to the respective residents in each kebele. There is no much variability on the characteristics being observed and the sampling method is random which were enforced by selective qualitative in-depth interview and focus group discussions. Hence the sample size would be sufficient to be representative of the population of interest. Constraint of resource was also the other parameter governing the sample size of the research.

Sample size determination

$$n = Z^2 * N p.q / \varepsilon^2 (N-1) + Z^2 p.q \dots \dots \dots \text{Kothari, pp 175}$$

- N = size of population= 13937(Census projection 2015= 133800/6=22300= 8 kebeles, for 5 kebeles total household 12000
- n = size of sample
- e = acceptable error (the precision) =0.05
- p = sample proportion, q = 1 – p; take the value of p = 0.8. The method may be to take an initial estimate of p which may either be based on personal judgment or may be the result

of a pilot study. A personal judgment based on the expected percentage of infrastructure coverage for the households in the town was taken here as 0.8 % p value, hence $q=1-p=0.2$

- z = the value of the standard variate at a given confidence level and to be worked out from table showing area under Normal Curve; 1.96 here for 95% Confidence Level

$$n = (1.96)^2 * 12000 * 0.8 * 0.2 / (0.05)^2 (11999) + (1.96)^2 * 0.8 * 0.2$$

$$= 7376 / 30.6 = 241$$

Hence the sample size of 241 is accepted for household selection.

3.5. Sampling Procedure

Two stage simple random sampling technique was employed for primary data collection. There are three sub cities in Hossana town and two of the sub cities have three kebele's each and one of the sub city has two kebeles. Hence, there are a total of eight kebeles in the town. Out of the eight kebele's 5 were selected randomly in such a way that from the two sub cities with three kebele's each two kebeles would be selected on random basis. From the third sub city with two kebeles only one was selected randomly. Hence a total of 5 kebeles from the 8 kebeles were randomly selected for the sample survey. From the five selected kebeles 241 households were selected through random choice according to the proportion of kebele's respective population size. Hence the first stage was to select the kebeles and the second stage to choose the respondent households randomly from the kebele register.

Primary data collection tools include structured and semi-structured questionnaire on the coverage and factors challenging the provision. Qualitative information was collected through in-depth interviews and focus group discussion selected purposefully from representative community institutions, residents and provider institutions.

Secondary data were collected from the relevant office reports and policy related documents.

3.6. Method of analysis:

Triangulation of the information from different sources was done along side with the description of the existing coverage data for the infrastructure provided. The data was analyzed using SPSS and simple statistical methods were used for analysis such as using tables, percentages etc...

CHAPTER FOUR: FINDINGS AND DISCUSSION

This section of the study consists of six sub-sections based on the data collected from questionnaire. The sub sections include the sample household demographic characteristics; household responses about Hossana town water sub sector, the power sub sector, the road sub sector, the overall infrastructure status, and Infrastructure provision at kebele levels.

4.1.Demographic Characteristics of the households

The respondents for the study were selected randomly from 5 kebeles of the three sub-cities in Hossana town. Of the 250 questionnaires distributed to the sample households, 212 were received back. The table I below shows that out of 212 respondents, 116(54.7%) were male household heads; whereas 96(45.3%) were female headed households. **Table 1: Gender of the respondents**

Categories	Frequency	Percent	Valid Percent
Male	116	54.7	54.7
Female	96	45.3	45.3
Total	212	100.0	100.0

Source: Own survey data analysis

The respondents profile of marital status indicates that 133(62.7 %) were married, 62 (29.2%) were single, 13(6.1%) were divorced and 4(1.9%) responded as falling under other category.

Table 2: Marital status of the respondents

Categories	Frequency	Percent
Married	133	62.7
Single	62	29.2
Divorced	13	6.1
Other	4	1.9
Total	212	100.0

Source: Own survey data analysis

When the respondents profile is examined for their occupational status 115 (54.2%) were civil servants, 28(13.2%) were NGO workers, 27(12.7%) were in private businesses, 8(3.8%) were engaged in agriculture, 18(8.5%) were pensioners.

Table 3: Job categories of the respondents

Categories	Frequency	Percent
Civil servant	115	54.2
NGO worker	28	13.2
Private Business owner	27	12.7
Farmer	8	3.8
Small and Micro Enterprise member	18	8.5
Pensioner	16	7.5
Total	212	100.0

Source: Own survey data analysis

The family size profile of the respondent households indicate that 84(39.6%) have less than three members, 97(45.7%) were having 3-5 members, 26(12.3%) have 6-10 members and 5(2.4%) were having more than 10 members in their household.

Table 4: Family size of the respondent households

Categories	Frequency	Percent
Less than three members	84	39.6
Three to five members	97	45.8
Six to ten members	26	12.3
Above ten members	5	2.4
Total	212	100.0

Source: Own survey data analysis

4.2. Water Subsector Responses

Respondents were questioned whether they have access for clean drinking water at their home and their responses show as yes for 114(53.8%) and no for 98(46.2%). This indicates that nearly half of the respondent households have got no access to have home water access. Table 1 below shows the proportion of those accessing potable water at home level.

Table 5: Access for tap water at home

Categories	Frequency	Percent
Yes	114	53.8
No	98	46.2
Total	212	100.0

Source: Own survey data analysis

The respondents who were not having access for tap water at their homes or who face inadequate supply were requested to indicate their alternative sources of supply. Of the 139 respondents who gave answer for the particular question, 70(50.4%) responded that they depended on private household tap water sellers, 44(31.7%) depended on community water spots, 15(10.7%) depended on nearby water spring and 10(7.2%) depended on underground water access. Table 2 below shows the percentage share for each alternative source categories.

Table 6: Alternative sources of water sample group used

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Community water spots	44	20.8	31.7	31.7
	Private providers	70	33.0	50.4	82.0
	Underground water	10	4.7	7.2	89.2
	Nearby water spring	15	7.1	10.8	100.0
	Total	139	65.6	100.0	
Missing	System	73	34.4		
Total		212	100.0		

Source: Own survey data analysis

The households under study were questioned about the level of adequacy of the water supply to their daily basic utility. Accordingly, 197 respondents gave an answer to this question. Of the respondents, 32(16.2%) replied extremely satisfied with the supply, 82(41.6%) were very well satisfied 20(10.2%) were more or less satisfied, 45(22.8%) dissatisfied and 18(9.1%) were very dissatisfied with the adequacy of the water supply. This shows that nearly 68% of the respondents were satisfied on the supply which is almost 2/3rd of the total respondents. The percentage distributions for the respondents reply are given in the Table 3 below.

Table 7: Satisfaction level on adequacy of the water supply Quantity to daily utilities

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Extremely well	32	15.1	16.2	16.2
Very well	82	38.7	41.6	57.9
Somewhat well	20	9.4	10.2	68.0
Not so well	45	21.2	22.8	90.9
Not well at all	18	8.5	9.1	100.0
Total	197	92.9	100.0	
Missing System	15	7.1		
Total	212	100.0		

Source: Own survey data analysis

Respondents were further questioned to evaluate the quality of water infrastructure in the town and they responded in such a way that 38(18.9%) replied very good, 78(38.8%) responded good, 24(11.9%) responded poor and 20(10%) responded very poor. This implies that nearly 70% of the sample respondents believe that the infrastructure system provided was more or less good and were less critical on it. The responses can be seen from Table 4 below.

Table 8: Water infrastructure quality

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	38	17.9	18.9	18.9
	Good	78	36.8	38.8	57.7
	Fair	24	11.3	11.9	69.7
	Poor	41	19.3	20.4	90.0
	Very poor	20	9.4	10.0	100.0
	Total	201	94.8	100.0	
Missing	System	11	5.2		
Total		212	100.0		

Source: Own data analysis

Questions raised on the level of fairness of the authority in the provision of water access to the urban households got a reply from 205 respondents out of which 44(21.5%) replied the process as very fair, 78(38%) replied as fair, 33(16.1%) replied more or less fair, 38(18.5%) responded as not fair, 12(5.9%) of the response givers replied that they could not decide on the fairness issue. This analysis shows that nearly 75% of the respondents were of the opinion that the provision system was more or less fair and above average. Table 5 below indicates the distributions there of.

Table 9: Water infrastructure distribution fairness

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very fair	44	20.8	21.5	21.5
	Fair	78	36.8	38.0	59.5
	More or less fair	33	15.6	16.1	75.6
	Not fair	38	17.9	18.5	94.1
	Cannot decide	12	5.7	5.9	100.0
	Total	205	96.7	100.0	
Missing	System	7	3.3		
Total		212	100.0		

The above analysis from tables 1-5 are based on water access at home, alternative access analysis, adequacy of the water supply quantity, the quality of the water infrastructure, and

fairness in the distribution of the provision. The analysis reveals that the dominants perception of the respondents is such that those who were provided the access were more or less satisfied in all the indicated parameters of assessment. But the major concern would remain to be creation of access to nearly 50% of the sample households who were not having the access for potable tap water at their homes. Hence expanding of water infrastructure is a critical concern in the town.

Households questioned on the time of access, the bureaucracies of the authority, on the responsiveness of the office for requests from the community on matters related to water supply have given the following replies:

When they were asked for their access time, 98(56.3%) responded that they accessed since last one year, 51(29.3%) accessed within 2-5 years time, 18(10.3%) in 6-10 years time, 7(4%) accessed before 10 years. More than 85% of the respondents accessed only within the last 1-5 years. This shows that the access was mainly a recent one within the last 5 years duration. The distributions can be seen from Table 6 below.

Table 10: Time of access for water infrastructure at home

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than a year	98	46.2	56.3	56.3
	2-5 years	51	24.1	29.3	85.6
	6-10 years	18	8.5	10.3	96.0
	Before 10 years	7	3.3	4.0	100.0
	Total	174	82.1	100.0	
Missing	System	38	17.9		
Total		212	100.0		

Source: Own survey data analysis

Respondents asked a question on the office's bureaucracy to get the water access in place after application replied that 74(40%) responded that the process took less than half year's time, 80(43.2%) responded less than a year, 17(9.2%) responded 1-5 years, 14(7.6%) responded above

5 years. This can be seen from Table 7 below. Nearly 4/5th of the responding households believe that the access bureaucracy was not more than a year.

Table 11: Bureaucracy to access the water infrastructure at household level

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 6 months	74	34.9	40.0	40.0
	7 months -1year	80	37.7	43.2	83.2
	1-5 years	17	8.0	9.2	92.4
	Above 5 years	14	6.6	7.6	100.0
	Total	185	87.3	100.0	
Missing System		27	12.7		
Total		212	100.0		

Source: Own survey data analysis

A similar question raised was on the level of responsiveness by the authority on the maintenance and related requests from customers revealed the following reply: 54(27%) responded that the office was extremely responsive, 41(20.5%) responded that the it was very responsive, 29(14.5%) replied more or less responsive, 61(30.5%) replied as not responsive and 15(7.5%) confirmed not at all responsive. The analysis shows that only nearly 60% of the respondents accept the level more or less and above in their reply to the question. This is an area of improvement for the authority service. The percentage distributions are indicated below in Table 8.

Table 12: Responsiveness of the authority on maintenance requests

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Extremely responsive	54	25.5	27.0	27.0
Very responsive	41	19.3	20.5	47.5
Somewhat responsive	29	13.7	14.5	62.0
Valid Not much responsive	61	28.8	30.5	92.5
Not at all responsive	15	7.1	7.5	100.0
Total	200	94.3	100.0	
Missing System	12	5.7		
Total	212	100.0		

Source: Own survey data analysis

The above questions analyzed under table no. 6-8 on responsiveness issues of the office showed that the customers' requests were more or less addressed in due time at a level above average and the improvement in access for water has been mostly a recent phenomenon of less than 5 years duration.

Issues related to water utility fees fairness or value for money was raised to the sample households and the response has had the following patterns: It was rated excellent rate by 29(14.1%), rated above average by 32(15.6%), it was rated average by 93(45.4%), below average by 27(13.2%), and poor or very dear rate by 24(11.7%). This indicates that 4/5th of the respondents believe that the fee rate paid for water use is good and above meaning that they are getting good value for money they pay. This distribution of percentages can be seen from Table 9 below.

Table 13: Respondents evaluation on Value for money for water use

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	29	13.7	14.1	14.1
	Above average	32	15.1	15.6	29.8
	Average	93	43.9	45.4	75.1
	Below average	27	12.7	13.2	88.3
	Poor	24	11.3	11.7	100.0
	Total	205	96.7	100.0	
Missing System		7	3.3		
Total		212	100.0		

Source: Own survey data analysis

The level of community participation in sharing the water infrastructure provision cost was asked and the respondents gave the following reply: From 183 respondents to the question raised, 158(86.3%) were responded yes, and 25(13.7%) responded no to the question. This means that more than 4/5th of the responding households were participating in infrastructure funding for water access. This can be seen from Table10 below.

Table 14: Community participation on cost sharing in water infrastructure provision

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	158	74.5	86.3	86.3
	No	25	11.8	13.7	100.0
	Total	183	86.3	100.0	
Missing System		29	13.7		
Total		212	100.0		

Source: Own survey data analysis

The same group of respondents who selected yes on participation of cost sharing was asked on how much share was their contribution on the process. They responded as follows: 55(30.2%) confirmed it was not more than 5%, 43(23.6%) replied 6-10%) cost sharing, 11(6%) responded 11-25%, 59(32.4%) responded above 25% and 14(7.7%) replied there was fixed rate. The response rate can be seen from Table 11 below.

Table 15: Cost sharing percentages by the community for water supply

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 5%	55	25.9	30.2	30.2
	6-10%	43	20.3	23.6	53.8
	11-25%	11	5.2	6.0	59.9
	Above 25%	59	27.8	32.4	92.3
	No fixed rate	14	6.6	7.7	100.0
	Total	182	85.8	100.0	
Missing	System	30	14.2		
Total		212	100.0		

Source: Own survey data analysis

The above analysis shows that there was no uniformity on their participation level. This indicates that the rates were not fixed and clearly put by the authority. Community participation was common but there is no pattern on the level of cost sharing. On the other hand, there is an opportunity that participation rate can be raised up to 25% of a clearly calculated infrastructure costs after convincing the community to do so. There is a potential opportunity to increase water infrastructure fund with increased community participation as the participation rate is still less than 10% for more than 50% sample household participants.

On the other hand, a group of respondents who were not participating in cost sharing were asked their reason for non-participation in the process. The responses from 1321 respondents reveal that 43(35.5%) responded there is no scheme to do so, 51(42.1%) responded that there is no need to do so as it is governments/municipality's obligation, 15(12.4%) responded that they were not requested for and the rest 12(9.9%) replied that the community was not willing to do so.

This analysis indicates that nearly 50% of the responding households were indirectly willing to participate in cost sharing if asked and appropriate scheme is in place. This shows that the community is willing to participate but clear scheme and demand from the authority is a requirement. The scenario can be seen from

Table 16. Reason for lack of participation in cost sharing of water infrastructure provision

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No scheme to do so	43	20.3	35.5	35.5
	No need to do so	51	24.1	42.1	77.7
	Not requested	15	7.1	12.4	90.1
	Community not willing	12	5.7	9.9	100.0
	Total	121	57.1	100.0	
Missing	System	91	42.9		
Total		212	100.0		

Source: Own survey data analysis

The respondents were also asked on the critical challenges associated to water infrastructure provision in the town. The responses were summarized as follows: Of the 211 respondents who replied from the question, 96(45.5%) were of the opinion that financial shortage in the biggest challenge, 33(15.6%) considered lack of technical capacity as a challenge, 24(11.4%) chosen the increase in the population of the town as a biggest challenge, 10(4.7%) replied as office bureaucracy problem as a challenge, 8(3.8%) chosen infrastructure input shortage, 5(2.4%) the town's topography problem, 4(1.9%) responded a governance problem, 18(8.5%) responded on overall supply source problem and 13(6.2%) replied the community's water use efficiency problem as a challenge.

It can be realized from the above analysis that the biggest challenge according to the evaluation of the respondent households was financial in nature followed by technical capacity and the shortage of the supply sources in general. The distribution of challenge choice in water subsector can be seen under the following Table 13 below.

Table17: Challenges in water infrastructure provision

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Shortage of financial resources	96	45.3	45.5	45.5
	Shortage of technical capacity	33	15.6	15.6	61.1
	Increase in the no. of town population	24	11.3	11.4	72.5
	Excessive office bureaucracy	10	4.7	4.7	77.3
	Input shortage	8	3.8	3.8	81.0
	Town's topography problem	5	2.4	2.4	83.4
	Governance problem	4	1.9	1.9	85.3
	Shortage of water supply sources	18	8.5	8.5	93.8
	The community's inefficiency in water use	13	6.1	6.2	100.0
	Total	211	99.5	100.0	
Missing System		1	.5		
Total		212	100.0		

Source: Own survey data analysis

4.3.Power Sub Sector Responses

Response for a question raised on availability of electric power supply at their homes has the following responses categorized as yes by 184(87.6%) respondents and no by 26(12.4%) respondents. This shows that the supply of electricity power was accessed by majority of the sample households. The percentages are indicated on the Table 14 below.

Table 18: Electric power access by the sample households

Category of responses		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	184	86.8	87.6	87.6
	No	26	12.3	12.4	100.0
	Total	210	99.1	100.0	
	Missing System	2	.9		
	Total	212	100.0		

Source: Own survey data analysis

Another question raised on rating major bottlenecks hindering an access to home electric power supply in the town by those who are not yet accessing the supply. The responses from 117 households were categorized as: 43(36.8%) responded the problem of affordability of the cost of infrastructure, 33(28.2%) responded their lack of private house, 18(15.4%)complained excessive bureaucracy of the authority, 9(7.7%) responded limited community collaboration in the process, other 14(12%) replied the shortage of input supply as a reason for not accessing the power supply. Table 15 below has the distribution of the responses.

Table 19: Reason for not accessing electric power supply at home

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not affordable	43	20.3	36.8	36.8
	No private house	33	15.6	28.2	65.0
	Excessive bureaucracy	18	8.5	15.4	80.3
	Lack of community participation	9	4.2	7.7	88.0
	Shortage of input	14	6.6	12.0	100.0
	Total	117	55.2	100.0	
Missing System		95	44.8		
Total		212	100.0		

Source: Own survey data analysis

A question raised about availability of other sources of supply for those who are not accessing the home electric supply or those in shortages has indicated the following result: 50(38.5%) depended on private household providers, 58(44.6%) depended on nearby NGO providers, 18(13.8%) depended on solar and fuel energy sources, 4(3.1%) responded that they were not using any source. The following table 16 reveals the distribution.

Table 20: Alternative power sources households were using

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Private providers	50	23.6	38.5	38.5
	NGO	58	27.4	44.6	83.1
	Not using from any source	4	1.9	3.1	86.2
	Solar and fuel	18	8.5	13.8	100.0
	Total	130	61.3	100.0	
Missing	System	82	38.7		
Total		212	100.0		

Source: Own survey data analysis

A related question was raised on the adequacy of power supply at home and hence their level of satisfaction on the existing supply has shown the following categories of response. Of the total respondents 34(16.3%) are extremely satisfied on the current supply level at home, 110(52.9%) were very satisfied, 34(16.3%) replied that they were more or less satisfied, 16(7.7%) complained the supply was inadequate, still other 14(6.7%) replied the supply as very much inadequate. Table 17 shows the details for the responses.

Table 21: Adequacy of the electric power supply at home

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely well	34	16.0	16.3	16.3
	Very well	110	51.9	52.9	69.2
	More or less well	34	16.0	16.3	85.6
	Not well	16	7.5	7.7	93.3
	Not at all well	14	6.6	6.7	100.0
	Total	208	98.1	100.0	
Missing	System	4	1.9		
Total		212	100.0		

Source: Own survey data analysis

Another question raised on the fairness of the power infrastructure provision process has revealed the following percentage distribution of the responses: Of the 209 respondents for the particular question, 42(20.1%) believed it was very fair, 94(45%) responded it as fair, 29(13.9%) responded as more or less fair. But 34(16.3%) responded it as not fair and 10(4.8%) replied they cannot decide on the issue raised. The following table has the percentage distribution showing the fairness status.

Table 22: Distributional fairness evaluation of the power supply in the town

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very fair	42	19.8	20.1	20.1
	Fair	94	44.3	45.0	65.1
	More or less fair	29	13.7	13.9	78.9
	Not fair	34	16.0	16.3	95.2
	Can't decide	10	4.7	4.8	100.0
	Total	209	98.6	100.0	
Missing	System	3	1.4		
Total		212	100.0		

Source: Own survey data analysis

The fairness analysis revealed that nearly 80% of the responding households believe that the infrastructure distribution system is fair at above average level.

Another challenge in the power sector was a frequent power cut problem. A question on the frequency of the power supply cut for those who have the access was raised and they responded according to the following rates; 14(6.7%) out of 208 respondents replied that the power cut was very much frequent, 128(61.5%) responded frequent, 51(24.5%) it as occasional, 10(4.8%) replied power cut was not serious problem, the rest 5(2.4%) responded that the power cut was not a problem at all. The proportion of the responses can be seen from the following table.

Table 23 Frequency of the power cut

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very much	14	6.6	6.7	6.7
	Frequent	128	60.4	61.5	68.3
	Occasional	51	24.1	24.5	92.8
	Not so much	10	4.7	4.8	97.6
	Not at all	5	2.4	2.4	100.0
	Total	208	98.1	100.0	
Missing	System	4	1.9		
Total		212	100.0		

Source: Own survey data analysis

The analysis shows that majority of the sample households believe the problem of power cut was serious because nearly 70% would agree on the seriousness of the power cut problem.

Question related to the power access time for the households reveals that 59(30.3%) of the 196 respondents accessed since one year, 75(38.5%) accessed it since last five years, 5(2.6%) responded as having their access since 6-10 years time, 40(20.5%) responded as they accessed before 10 years. This indicates that majority of the households had accessed power supply within the last 5 years duration. This can be seen from the table below.

Table 24: Power supply access time for the sample households

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than a year	59	27.8	30.3	30.3
	1 to 5 years	75	35.4	38.5	68.7
	6 to 10 years	5	2.4	2.6	71.3
	Before 10 years	40	18.9	20.5	91.8
	Unknown	16	7.5	8.2	100.0
	Total	195	92.0	100.0	
Missing System		17	8.0		
Total		212	100.0		

A question investigating the bureaucracy level of the power supply process for the sample households was raised and their response rates are indicated below. Of the respondents 85(43.4%) confirmed that their secured the access in a month's time after application, 36(18.4%) secured in less than a year, 1(5%) in less than 2 years, 22(11.2%) responded that they do not remember the time taken in the process. This indicates that nearly 40% of the sample respondents did not secure access in year's time due to office bureaucracies and hence the process was a challenge for them. Table 21 below gives the evaluation from the sample households.

Table 25: Level of bureaucracy in accessing process of power supply at home

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than a month	85	40.1	43.4	43.4
	Less than a year	36	17.0	18.4	61.7
	Less than 2 years	1	.5	.5	62.2
	Above 2 years	52	24.5	26.5	88.8
	Unknown	22	10.4	11.2	100.0
	Total	196	92.5	100.0	
Missing System		16	7.5		
Total		212	100.0		

Source: Own survey data analysis

Respondents were also asked to evaluate the responsiveness of the authority for requests from their customers on power cuts and related difficulties. The respondents rates as follows: 28(13.5%) of the 208 respondents reflected that the authority was extremely responsive, 110(52.9%) rated as very responsive, 12(5.8%) as somewhat responsive, 49(23.6%) as not responsive, 9(4.3%) as not at all responsive.

The respondents rate reveals that majority (more than 70%) of the responding households have rated the authority as responsive to customer difficulties. But the dissatisfaction from nearly 30% of the respondents has meaning in service delivery process. Table 22 shows the details.

Table 26: Authority responsiveness level on maintenance requests

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely responsive	28	13.2	13.5	13.5
	Very responsive	110	51.9	52.9	66.3
	Somehow responsive	12	5.7	5.8	72.1
	Not so much responsive	49	23.1	23.6	95.7
	Not at all responsive	9	4.2	4.3	100.0
Total		208	98.1	100.0	
Missing System		4	1.9		
Total		212	100.0		

Source: Own survey data analysis

Cost sharing participation of the community in power supply process was a question raised to the respondents and the response rates include: 160(76.9%) replied yes and 48(23.1%) replied no the question. This indicates that nearly 2/3rd of the demanding sample households had participated in the cost sharing for power infrastructure showing that participation of the community was not a problem in the process. Table 23 indicated the percentage distribution.

Table 27: Community power cost sharing participation

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	160	75.5	76.9	76.9
	No	48	22.6	23.1	100.0
	Total	208	98.1	100.0	
	Missing System	4	1.9		
Total		212	100.0		

Source: Own survey data analysis

What was the proportion of their cost sharing participation was the next question raised for the sample households. The response rate follows the pattern that 35(17.9%) of the 195 respondents replied that the rate was up to 5%, 71(36.4%) responded above 10%, 10(5.1%) responded as 6-10% participation. But significantly large number of the respondents revealed that there was no standard rate for a community involvement in the process. Table 24 shows the details.

Table 28: Level of community cost sharing

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 5 %	35	16.5	17.9	17.9
	Above 10%	71	33.5	36.4	54.4
	6-10%	10	4.7	5.1	59.5
	No standard	79	37.3	40.5	100.0
	Total	195	92.0	100.0	
Missing System		17	8.0		
Total		212	100.0		

Source: Own survey data analysis

A related question for reason of not participating by some members in the sample revealed that of the 116 respondents 75(64.7%) replied they were not asked to do so, 9(7.8%) did not believe that there was the need to do so, 12(10.3%) said they had no awareness, 20(17.2%) replied that there was no mechanism to do so. From the analysis it is clear that community was willing to

participate in the endeavor but the scheme was not clear and uniform to ensure the participation. This can be seen from the table values below.

Table 29: Reasons for non participation in power infrastructure cost sharing

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not demanded by the authority	75	35.4	64.7	64.7
	No need to do so	9	4.2	7.8	72.4
	No awareness	12	5.7	10.3	82.8
	No mechanism to do so	20	9.4	17.2	100.0
	Total	116	54.7	100.0	
Missing	System	96	45.3		
Total		212	100.0		

Source: Own survey data analysis

Respondents were asked to reveal their evaluation on the value for money of the power supply service fee and they responded according to the following proportions: Of the 208 responses given, 23(11.1%) replied the fee rate was excellent, 113(54.3%) believed that the rate was good, 26(12.5%) revealed it as expensive, 18(8.7%) as very expensive or poor. The analysis shows that the response was good and above average level as rated by nearly 80% of the respondents. The table below shows the value for money evaluation in electric use.

Table 30: Value for money evaluation for electric utility service

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	23	10.8	11.1	11.1
	Above average	113	53.3	54.3	65.4
	Good	28	13.2	13.5	78.8
	Below Average	26	12.3	12.5	91.3
	Poor	18	8.5	8.7	100.0
	Total	208	98.1	100.0	
Missing	System	4	1.9		
Total		212	100.0		

Source: Own survey data analysis

Sample households were provided with a question related to the major challenges in the power infrastructure provision in the town and their response rates were as follows. Excessive bureaucracy was rated at 34(16%), infrastructure input shortage as a major challenge rate by 25(11.8%) , financial constraints 24(11.3%), technical constraints as a major challenge 17(8%), topography problem as a challenge 5(2.4%) limited community participation 3(1.4%) and the rest 19(9%) revealed that corruption and nepotism and 85(40.1%) replied lack of power supply capacity.

The following table reveals the details.

Table 31: Challenges in the power infrastructure provision in the town

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Excessive bureaucracy	34	16.0	16.0	16.0
Lack of infrastructure input	25	11.8	11.8	27.8
Financial constraint	24	11.3	11.3	39.2
Technical constraint	17	8.0	8.0	47.2
Valid Topography	5	2.4	2.4	49.5
Community participation	3	1.4	1.4	50.9
Corruption and nepotism	19	9.0	9.0	59.9
Lack of power supply capacity	85	40.1	40.1	100.0
Total	212	100.0	100.0	

Source: Own survey data analysis

Hence, it could be clear from the responses that the dominant challenge for power infrastructure supply has been inadequate capacity in the supply institution followed by excessive bureaucracy in the process.

4.4.The road sub-sector responses

Respondents questioned about having an access for all weather road from their residence to town service centers replied as follows: of the 212 respondents, 201(94.8%) replied yes to the question and the rest 11(5.2%) replied no access. Hence road sector general access question indicates that there is one or another type of road from almost all the respondents' residences. The proportions can be seen from table below.

Table 32: Road access of the respondent households in Hosanna town

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	201	94.8	94.8	94.8
Valid No	11	5.2	5.2	100.0
Total	212	100.0	100.0	

Source: Own survey data analysis

The type of road access the households are having was questioned and 32(15.5%) responded an asphalt road access, 29(14.1%) replied a crashed stone road, 15(7.3%) cobble stone, 45(21.8%) replied a paved soil, 85(41.3%) all types of road access. The response shows that the town has limited standard asphalt and cobble stone type roads although all of the sample households have the access of one sort or the other. Details are indicated in the table below.

Table 33: Type of road access the responding households are having

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Asphalt	32	15.1	15.5	15.5
Gravel	29	13.7	14.1	29.6
Valid Cobble stone	15	7.1	7.3	36.9
Paved soil	45	21.2	21.8	58.7
All type	85	40.1	41.3	100.0
Total	206	97.2	100.0	
Missing System	6	2.8		
Total	212	100.0		

Source: Own survey data analysis

The justification for the poor access of road in the town has got the following responses. Of the 137 respondents who gave an answer to the question, 58(42.3%) responded it as a municipality problem, 8(5.8%) a delay in planned performance, 27(19.7%) due to the settlement being newly established, 7(5.1%) responded lack of community participation, 37(27%) replied corruption and nepotism. The analysis indicates that lack of access for road infrastructure is mainly due to municipality related problems as nearly 70% of the respondents assured in their reply. Table 30 shows the proportion of the responses.

Table 34: Reason for not having road access

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Municipality problem	58	27.4	42.3	42.3
	Delayed plan	8	3.8	5.8	48.2
	New settlement	27	12.7	19.7	67.9
	Lack of community participation	7	3.3	5.1	73.0
	Corruption and nepotism	37	17.5	27.0	100.0
	Total	137	64.6	100.0	
Missing	System	75	35.4		
Total		212	100.0		

Source: Own survey data analysis

Another question was raised on the quality of road infrastructure has got responses in such a way that 35(16.6%) replied it as very standard, 44(20.9%) confirmed standard, 107(50.7%) replied below standard, 25(11.8%) replied very much below standard. Majority of the respondents above 60% have their evaluation of the quality of the road as below standard showing that the road infrastructure is of low quality standard. This can be seen from the table below.

Table 35: Quality of the town road infrastructure

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very standard and satisfying	35	16.5	16.6	16.6
	More or less standard quality	44	20.8	20.9	37.4
	Below standard quality	107	50.5	50.7	88.2
	Very much below standard quality	25	11.8	11.8	100.0
	Total	211	99.5	100.0	
Missing	System	1	.5		
Total		212	100.0		

Source: Own survey data analysis

Level of responsiveness of the department on road infrastructure maintenance was evaluated by the respondents based on the question about maintenance. Accordingly, 27(13%) reflected the office as excellent responding to community questions, 61(29.3%) were of the opinion that the responsiveness was very good, 28(13.8%) replied good, 52(25%) replied poor and 40(19.2%) replied very poor. Hence, the responses indicate that the satisfaction level was nearly average.

Table 36: Maintenance system of the road infrastructure

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	27	12.7	13.0	13.0
	Very good	61	28.8	29.3	42.3
	Good	28	13.2	13.5	55.8
	Poor	52	24.5	25.0	80.8
	Very Poor	40	18.9	19.2	100.0
	Total	208	98.1	100.0	
Missing	System	4	1.9		
Total		212	100.0		

Source: Own survey data analysis

How participatory was the road sector activities by the authority was the question of interest raised to sample households. They replied at a rate showing that 71(34.1%) believe that the

office was very participatory, 40(19.2%) replied as participatory, 67(32.2%) replied as not participatory, 30(14.4%) replied that the office had no clear mechanism to ensure participation of the community. Table below shows the rate of responses given.

Table 37: The authority's effort to participate the community at all levels

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very participatory	71	33.5	34.1	34.1
	Participatory	40	18.9	19.2	53.4
	Not participatory	67	31.6	32.2	85.6
	No clear mechanism	30	14.2	14.4	100.0
	Total	208	98.1	100.0	
Missing	System	4	1.9		
Total		212	100.0		

Source: Own survey data analysis

The analysis shows that the community participation effort by the road sector authorities was limited and constrained by lack of clear participation mechanism.

Major challenges to the road infrastructure provision were rated by the sample households as follows: 98(48.5%) reflected as mainly due to the municipality problem, 17(8.4%) replied lack of community participation, 38(18.8%) excessive office bureaucracy, 14(6.9%) excess demand for the road subsector, 8(4%) topographical problems, 4(2%) lack of public-private collaboration system. The result shows that the major challenge was financial capacity of the authority followed by the office's bureaucratic procedures. Table 34 below detailed the responses.

Table 38: Major challenges of the road subsector rated by respondents

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lack of municipal financial capacity	98	46.2	48.5	48.5
	Lack of community participation	17	8.0	8.4	56.9
	Excessive bureaucracy	38	17.9	18.8	75.7
	Excess demand	14	6.6	6.9	82.7
	Topography	8	3.8	4.0	86.6
	Limited Technical capacity	17	8.0	8.4	95.0
	Unplanned spacial expansion	1	.5	.5	95.5
	System of governance	5	2.4	2.5	98.0
	Lack of public-private collaboration	4	1.9	2.0	100.0
	Total	202	95.3	100.0	
Missing	System	10	4.7		
Total		212	100.0		

Source: Own survey data analysis

4.5.Overall Infrastructure Performance

The level of coordination among the three infrastructure sub sectors was one of the areas of analysis in the survey. Accordingly, the respondents were asked to respond on their evaluation of the coordination level. The reply rate indicates that 14(6.8%) excellent, 34(16.5%) ensured existence of good level of coordination, 73(35.4%) rated somehow good level, 47(22.8%) rated poor coordination, 38(18.4%) replied very poor coordination. This indicates that the level of coordination among the three subsectors effort was not strong. The following table indicates the rating of the sample household.

Table 39: Level of coordination among the three sub sectors as rated by respondents

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	14	6.6	6.8	6.8
	Very Good	34	16.0	16.5	23.3
	Good	73	34.4	35.4	58.7
	Poor	47	22.2	22.8	81.6
	Very poor	38	17.9	18.4	100.0
	Total	206	97.2	100.0	
Missing System		6	2.8		
Total		212	100.0		

Source: Own survey data analysis

The level of overall community participation on the towns' infrastructure provision was rated by the respondents as follows: 27(13%) rated the participation very significant, 126(60.9%) replied significant participation seen by the community, 40(19.3%) replied less significant, 14(6.8%) replied as insignificant participation. It can be clear from the perception analysis that community participation was favorable opportunity in the task of infrastructure provision in the town as the contribution level is rated above average by the respondents. The percentage distribution of the responses can be seen from table 36 below.

Table 40: Overall community participation evaluation by the respondents

Categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very significant	27	12.7	13.0	13.0
	Significant	126	59.4	60.9	73.9
	Less significant	40	18.9	19.3	93.2
	Insignificant	14	6.6	6.8	100.0
	Total	207	97.6	100.0	
Missing System		5	2.4		
Total		212	100.0		

Source: Own survey data analysis

Major challenges in infrastructure provision in the town in general that can still be critical among all the subsectors expansion were rated by the sample households in the following order of importance. Of the response givers, 81(38.4%) reflected it was a financial bottleneck that challenges most for the expansion of infrastructure, 21(10%) replied as technical capacity that matters most in the process, 31(14.7%) reflected administrative problems, 6(2.8%) as topographic problems, 8(3.8) lack of infrastructure input, 64(30.3%) replied lack of supply sources as ac challenge in infrastructure expansion. Table 37 below indicates the percentage distribution for the challenges in the respondents perception.

Table 41: Major challenges rated in infrastructure provision in the town in general

	Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Financial	81	38.2	38.4	38.4
	Technical	21	9.9	10.0	48.3
	Administrative	31	14.6	14.7	63.0
	Topographic	6	2.8	2.8	65.9
	Input provision	8	3.8	3.8	69.7
	Limited supply source	64	30.2	30.3	100.0
	Total	211	99.5	100.0	
Missing	System	1	.5		
Total		212	100.0		

Source: Own survey data analysis

Hence, shortage of finance was the leading challenge in infrastructure provision in the town followed by limited access for sources of supply especially in power and water subsectors.

Intersectoral comparisons among the three subsectors indicate that the most critically deficient sector in overall evaluation that would remain to be a critical challenge was water subsector which was rated 120(61.2%), followed by power subsector rated 39(19.9%) and road subsector rated at 37(18.9%). This can be seen from the criticality level rating of the three subsectors by the respondents in the following table.

Table 42: Level of criticality among the three subsectors as rated by respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Water	120	56.6	61.2	61.2
Power	39	18.4	19.9	81.1
Road	37	17.5	18.9	100.0
Total	196	92.5	100.0	
Missing System	16	7.5		
Total	212	100.0		

Source: Own survey data analysis

The rating shows that water subsector was more critical of the three subsectors. The other two subsectors status was rated almost equally critical at a level less important than the water subsector.

A related question raised for the respondents on the subsectors with limited expansion potential or opportunity in the future showed the following rating: of the 2014 respondents, 132(64.7%) were of the opinion that water subsector has limited prospects for easy expansion due mainly to limited source access, 38(18.6%) responded power subsector, 34(16.7%) responded the road subsector. Table 39 shows the rates of response.

Table 43: The subsector with limited expansion potential evaluated by respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Water	132	62.3	64.7	64.7
Power	38	17.9	18.6	83.3
Road	34	16.0	16.7	100.0
Total	204	96.2	100.0	
Missing System	8	3.8		
Total	212	100.0		

Source: Own survey data analysis

From the above analysis the challenge for the future expansion would be great in case of the water supply compared to other two subsectors.

4.6. Infrastructure Provision Kebele level evaluation

Comparisons made among the 5 kebeles in their access for water shows the following rates: Arada 20(17.5%), Bobicho 31(27%), Bethel 22(19.3%), JE 21(18.4%), Lichamba 20(17.5%). This indicates that Bobicho kebele was having better access for water compared to others. However, the water access distribution was more or less fair in the town. The table below shows the access rate at kebeles.

Table 44: Kebele * Waccess Crosstabulation

Kebeles	Water access		Total	%
	Yes	No		
Arada	20	27	47	17.5
Bobicho	31	10	41	27
Bethel	22	13	35	19.3
Jallo Naramo	21	23	44	18.4
Lichamba	20	24	44	17.5
Total	114	97	211	100

Source: Own survey data analysis

Evaluation of fairness in water infrastructure/ service provision across kebeles showed that almost all kebeles rating was more or less similar confirming that there was no critical fairness problem seen in the subsector in infrastructure provision. This can be seen from the following table.

Table 45. Kebele * Fairness Crosstabulation /water

Kebeles	Fairness					Total
	Very fair	Fair	More or less fair	Not fair	Can't decide	
Arada	16	9	0	15	7	47
Bobicho	3	26	3	7	2	41
Bethel	9	16	3	7	1	36
Jallo Naramo	4	11	23	1	1	40
Lichamba	12	16	4	8	1	41
Total	44	78	33	38	12	205

Source: Own survey data analysis

The quantity and quality of water infrastructure system was rated almost uniformly by the 5 kebele respondents indicating that there was no fairness problem in these aspects as well.

The power access across the five kebeles was rated in similar fashion under table 42 below indicating that Arada's access level was 39(21.2%), Bobicho 36(19.5%), Bethel 32(17.5%), JE 37(20.1%), Lichamba 40(21.7%). This shows that the distribution of power across kebeles was more or less fair. Table below confirms this.

Table 46: Kebele * Paccess Crosstabulation

Kebeles	Power access		Total	%	% Access
	Yes	No			
Arada	39	8	47	22	21.2
Bobicho	36	5	41	20	19.5
Kebele Bethel	32	4	36	17	17.4
Jallo Naramo	37	6	43	20	20.1
Lichamba	40	3	43	20	21.7
Total	184	26	210	100	100

Source: Own survey data analysis

Frequency of the powercut proble across kebeles was evaluated and the response rate show that the power cut was uniformly occurring across all the kebeles at a rate very high and high. Table below shows same.

Table 47: Kebele * Powercut Crosstabulation

Kebeles	Power cut					Total
	Very frequent	Frequent	Occasional	Rarely	Very rarely	
Arada	3	21	16	6	1	47
Bobicho	1	33	4	1	2	41
Kebele Bethel	4	19	12	1	0	36
Jallo Naramo	2	25	14	2	1	44
Lichamba	4	30	5	0	1	40
Total	14	128	51	10	5	208

Source: Own survey data analysis

An evaluation of the road subsector access across kebekes was shown in the following table below.

Table 48: Road access across kebeles comparison

Kebeles		Raccess		Total	% Access
		Yes	No		
Kebele	Arada	47	0	47	23.4
	Bobicho	37	4	41	18.4
	Bethel	35	1	36	17.4
	Jallo Naramo	41	3	44	20.4
	Lichamba	41	3	44	20.4
Total		201	11	212	100

Source: Own survey data analysis

From the table Arada sample households accessed at 47(23.4%), Bobicho 37(18.4%), Bethel 35(17.4%), JE 41(20.4%), Lichamba 41(20.1%). This shows that there was no much disparity in accessing the road infrastructure in the town. Table above confirms this aspect.

Difference in community participation level across kebeles was evaluated and the result shows that community participation rate was a bit higher for Arada and lichamba kebeles, compared to the rest. But it can be said that the overall participation rate was more or less uniform among the kebeles.

Table 49: Kebele * Community Crosstabulation

Kebeles		Community				Total
		Very high	High	Low	Very low	
Kebele	Arada	11	35	1	0	47
	Bobicho	1	24	15	0	40
	Bethel	3	24	7	2	36
	Jallo Naramo	1	21	10	12	44
	Lichamba	11	22	7	0	40
Total		27	126	40	14	207

Source: Own survey data analysis

General comparison among the three subsectors in accessing the power water and road can be seen from the following table 46.

Table 50: Access summary for the three subsectors

Category	Water		Power		Road	
Yes	114	54%	184	87.6%	201	94.8%
No	97	46%	26	12.4%	11	5.2%

Source: Own survey data analysis

From the table 46 above it can be inferred that water sub sector has less access for the sampled households in the town compared to power and road infrastructure. This shows that more endeavors is required to improve the access for water infrastructure in the town.

4.7. Institutional information

1. Water sub sector

The major provider of the water infrastructure and the daily water supply service is the towns water service office. The office experts were interviewed with a predesigned questionnaire and the following responses were provided by the officers.

The town water office uses an annual budget amounting to 18 million and the utilization level was almost 99% on average for the last few years. The source of budget identified from the interview was mainly the office's internal revenue with some contributions from the community participation. The office respondents were questioned on the level of man power in the office and responded that the office has 90 technical staff as well as 5 managerial level staff.

The prospects for expanding existing water supply in the town was one of the questions raised for the officers. There were two projects currently under process with a capital amount of 4.5 million birr as mentioned by the officers namely: Wachamo University deep well line infrastructure works and Infrastructure provision to teachers' communal building are in the town.

On the demand side analysis, the officers were asked on the total demand for the water provision. The response indicated that more than 133, 800 resident population has the demand for the service.

The water supply to date covered both private household tap water supply and community spots: The number of users' amounts to 79200 for community water spot users and 13500 totaling

92700. Hence, this shows the coverage of clean potable water in the town was 59% from the total population

The officers were asked on existence of planned community participation mechanisms and responded yes to the question. Similarly a question on existence of stakeholders' forum, they responded yes. But the response for coordination among the infrastructure providing sectors in the town was no. They were questioned on the expansion plan for the future and replied that there is a search for additional water sources and expansion of infrastructure expansion.

The office also identified major challenges in the provision of water infrastructure in the town indicating as follows; topography challenges, lack of coordination among infrastructure subsectors, problem in planned infrastructure provision, water abuse by using for construction works by users.

They prioritized the challenges in the level of their importance: topographical, input shortage, limited community participation, technical capacity, land related right issues for expansion works, governance related problems, budget shortage. Other problems include: lack of coordination especially with municipality and road sector office.

Analysis of the information provided indicates the following:

The row data collected from the water sub sector indicates that nearly 40 % of the town population is not properly accessing potable water from the institution both at household level and community spot level. The major reason for limited expansion of the infrastructure supply is associated with topographical problems followed by input shortage and limited community participation. Technical capacity and coordination among sectors providing infrastructure in the town are still identified as major problems by the office.

The potential for expansion of the service is seen to be limited compared to the large number of the town population. There is increase in demand for water use by construction sector in the town as well. The potential expansion sources and projects are not at hand except that there is a plan to search for sources of supply and additional infrastructure.

2. Power sub sector:

The power sector consisted of 66 technical staff, 7 managerial staff and 12 support staff in the district office in the town. The annual budget allocated for the district did not exceed 450 thousands and utilization rate was indicated 100%. The budget source indicated was Government.

The number of the Town people accessing the service was 10,500 *as the secondary information provided indicated. In a town with more than 26, 760 household heads, only 10, 500 would mean not more than 40%. It was indicated that most of the households get access from other private households and some of the households do not have legal settlement and own houses.*

The officers confirmed that there is some degree of community participation in power infrastructure provision but the level of cooperation among the sub sectors in provision of town infrastructure was insignificant. The officers also claimed the presence of stakeholders' forum.

The officers were questioned on the prospect of expanding the supply and explained about their future plan for increasing the capacity of the district office in to regional level which would capacitate them technically and financially. Current expansion effort also include plan to open new district office at Angacha woreda.

Major challenges in the power infrastructure provision in the town as identified by the officers: office facilities for good service provision, budget deficiency, imbalance between staff and customer number, safety materials shortage for technicians.

The officers prioritized the challenges in their level of importance as follows: Budget shortage, Technical capacity, topographical challenge, community participation level, input shortage, governance problems, and land related rights clearing.

Analysis of the information provided indicates the following:

The row data from the sector indicates that the number of households accessing private household power supply do not exceed 10500 customers. But the town has more than no less than 22, 200 households even though they may not have private houses. The demand and supply gap is still large demand exceeding the supply.

Major challenges associated with the power sector infrastructure provision identified were budget shortage followed by technical capacity challenges. Topography related challenges and community participation as well as input provision would remain to be important challenges.

The potential capacity for expansion in the infrastructure focuses on the capacity improvement of the authority to increase to a region status from current district level. This is governance related that would increase staff capacity and solves budget constraint in their perception.

Collaboration schemes for public-private sector and coordination of the infrastructure service providing institutions works was found weak from the information provided by the office.

NB: The road subsector office was not willing to provide the required information for secondary data and hence the analysis is based on the community's responses and focus group discussions.

4.8.Focus group discussion

On the challenge and prospect in urban infrastructure water power and road sub sector the case Hosanna town

As part fulfilling information on the town's infrastructure status a focus group was organized by the researcher guided by 10 important questions designed for the discussion. The members of the group invited consists of representatives of different community groups such as town elders, local development association, NGO group, the three sector senior experts, members from early zonal **status** leaders, Senior water sector managers, university academic staff, community group members. The attendance list for nearly 12 member discussion group, their video record and pictures are attached at the annex of this article. Moreover, the guiding questions for the discussion chaired by the researcher are also attached at the end of the report.

Summary of the discussion is indicated under the three subsector headings below and relevant conclusions were drawn from the discussions.

A picture showing some of the members of the FGD who participated in the discussion



Water sub sector

Questions posed on the adequacy of quality and quantity of service provision has indicated that the water sector was relative good in quality and quantity of service provision and there was some effort for change in the sub sector, but still the service is not found adequate to community users.

The major bottle necks in the sector identified in the focus group discussion include: Resource shortage, technical incompetency, topography of the town, lack of good governance, increased demand due to population size increment, increased hotel number, construction works etc..

The Effort for planned delivery and maintenance of the infrastructures showed that even though the activities were planned, sometimes the plans were diverted in the favour of individuals. Moreover, some infrastructure lines were never seen or checked since they were established and there was no coordination among the sectors.

Analysis on the level of fairness and transparency leading to accountability shows that the provider focused on areas where the higher government officials reside and there was no accountability structure as such.

Efficiency analysis in the service delivery system showed that the service provision was not efficient as it should have been and there was a perception that the service fee was somewhat expensive but there were evidences raised indicating that the rate was one of the cheapest in the region.

The community were participated in the development of the main water plant of Hosanna town but there was gap in mobilizing the community support in the sector development. There was no data on willingness level but participation was seen in the development of main water plant showing that the community will participate in any developmental activity with little mobilization effort.

Analysis of the customer satisfaction on provision of the infrastructure indicates that there was no organized satisfaction level done by the office. It was raised that the dissatisfaction was mainly on supply of water not on infrastructure provision. Areas especially Arada and Bethel kebeles usually complain about absence of water.

Prospects and potential for improvement was discussed in the focus group and it was seen that the water sector was being digitalized and different administrative structure levels were organized to address the challenges in the ground but still this structures were not properly functioning. Moreover, a project of 10 million birr additional water plant from Gudar catchment is being developed. It was raised that the sustainability of existing water source from Mugo area is challenging as it was from long distance source of supply; hence alternative supply source identification is believed to be critical.

Nature of changing demand of population was discussed and the following issues were raised: The demand was mainly on fair distribution of the water supply, the amount of water supplied

should be increased because of increase in number of hotels, Wachamo University, high level of migration from local rural areas etc...

Important suggestion on narrowing the gap in the demand for infrastructure and supply were the following: Whenever the sector plans to do any infrastructure, it needs to consider the master plan of the town; the sectors should work in coordination; the community is cooperative and resourceful, so it should involve the community in developmental activities and the activities of the sector should be plan based.

Power Sector

On the adequacy of quality and quantity of power supply infrastructure provision the following issues were raised: The power sector was poor in quality and quantity of infrastructure and service provision; the quality of service was very poor especially in maintenance and bill delivery process. The participants believe that unless the sector is restructured, there is limited hope for improvement.

The major bottle necks in the sector from major to minor were identified as follows: Lack of good governance, Technical incompetency, Topography of the town, Resource scarcity, and increased demand

Effort for planned delivery and maintenance of the infrastructures by the office was discussed and suggestions given include: The infrastructure delivery and maintenance work of the sector was based on plan only. It would rather follow community demand and there was no coordination among the sectors

Level of fairness and transparency analysed indicate that there was limited transparency and accountability in this sector and the fairness of quality service provision of the sector was questionable.

Efficiency in the service delivery system was discussed and the following ideas were raised: The service provision is not efficient as it should be: one transformer to twenty thousand people it was somewhat expensive and the requests were not addressed timely.

Discussion on the level of community participation showed that the community had only limited awareness on the sectors work.

Assessment of the customers' satisfaction level on provision of the power infrastructure showed that there was no adequate effort made to assess customer satisfaction; the satisfaction level was not systemically assessed but the participant states that it was poor. The dissatisfaction was mainly on delivery of power, maintenance and bill delivery process. But there was no difference regarding service provision among kebeles of the town.

On the prospects and potential for improvement: A better capacity transformer was brought to the town last year but still is not functional and the sector status is only a district level but currently there is an effort to improve the status of the office to a region level.

On the nature of changing and demand of growth of population the following facts were identified: there was significant increase in demand by social and economic institutions in the town and increase in residence houses. Moreover there is increased migration from local rural areas.

Important suggestion on the narrowing the gap in the demand for infrastructure and supply given include: When the sector plans to do any infrastructure, it need to consider the master plan of the town; These sectors should work in coordination, the sector should involve the community in developmental activities, the activities of the sector should be plan based, the work of the sector should be transparent

Road sub sector

Adequacy of quality and quantity of road infrastructure provision indicated that this was the poorest sector both in quality and quantity of service provision. The major bottle necks in the sector from major to minor Lack of good governance, Corruption, Technical incompetency, Topography of the town, Weather condition of the town, Resource scarcity, Increased territory.

Effort for planned delivery and maintenance of the infrastructure indicate that there is a master plan for the town but sometimes the road construction did not abide to the plan; the roads constructed were uncoordinated; the construction of cobble stone roads was disorganized and not well planned and there was no coordination among the sectors.

Level of fairness and transparency analysis showed that the constructions are concentrated in one area of the town and the selection criteria for road construction were not clear for public. Efficiency in the service delivery system was discussed and it was shown that the service provision was not efficient, a lot of resource was wasted in this sector.

Community participation level showed that there were some movements in some area of the town regarding community participation but still more effort is needed as of the potential in the town is very high. Current improvement in road construction is dependent on World Bank support; to sustain the development the involvement of community is crucial.

Resident satisfaction level on provision of the infrastructure was not assessed but the level of dissatisfaction was mainly on fairness of road infrastructure distribution.

On the prospects and potential for improvement two ideas were raised: The World Bank fund and the changing community economic status as an opportunity. Nature of changing and demand of growth of population analysis showed that the town residence is expanding more than expected. There is illegal expansion in geographic area. Hence all these are increased demand for road infrastructure.

Important suggestion on the narrowing the gap in the demand for infrastructure and supply include considering the master plan of the town in road expansion works, coordination among sectors, increased community participation and transparency.

The findings from focus group discussion can be summarized as follows:

Common challenges of the infrastructure sector in the town include:

The increase in demand for infrastructure due to increased migration, increased complexity of the town economic and social infrastructure, increased geographic expansion along side with limited increase in the capacity of the providing institutions etc. This increase has created big gap in the provision of the supply in the town.

Major suggestions from the FGD indicate the need for increased collaboration of the subsectors effort, Strict follow up of the town's master plan, good governance, transparency, accountability, fairness in the distribution etc., Technical capacity building, Maintenance of the existing infrastructure system, increased community mobilization effort, critical mobilization of finance strengthening institutional capacity of the service providers etc..

Collaborative effort was seen weak among the sectors. There is a committee expected to coordinate the effort named steering committee but not efficient as such and working manuals not properly communicated.

The following areas were some of the focus to be considered:

Focus on water sub sector Supply source expansion, infrastructure level expansion, and satisfaction level assessment.

Focus on power sub sector Adequate supply capacity, adequate technical capacity, good governance and accountability, adequate resource mobilization and organizational capacity building.

Focus on road sub sector Good governance, fairness, transparency, minimizing corruption, plan based performance, increased technical capacity, increased resource mobilization.

Future prospects

For water sub sector challenges will be critical, but ongoing efforts are seen to some degree to identify sources of supply and plan to extract more water through time.

The power sector started expansion since long but the accomplishment was found weak. The inputs provided especially the transformer received before a year is not installed yet. The sector is not adequately responsive to community demand except following its marginal planned expansion. The governance structure and resource supply vis-à-vis the capacity of the technical staff has made the sector weaker.

The road subsector was found external resource dependent, deficient in resource mobilization and lacking transparency. Hence, critical resource mobilization and master plan and strategic

plan based infrastructure provision has to be in place. The future of the subsector can be improved if the governance system is improved.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1. CONCLUSIONS

The major conclusions drawn from the analysis and triangulation of the information gathered in different forms can be categorized under the three subsectors.

Water sub sector

Supply of household water infrastructure in the town was found inadequate since less than 60% of the town residents had the access of potable water. Moreover, from the accessing group of respondent households, nearly 1/3rd of the respondents confirmed inadequacy of the daily water supply to their needs.

Critical challenge for water infrastructure provision in the town was found to be shortage of infrastructure finance followed by the technical capacity, shortage of diversified supply sources, topography and limited capacity in mobilizing the community.

Effort to ensure community participation in water infrastructure and service provision was found good but there was no uniformity and clear scheme to ensure the participation at sustainable scale.

The water infrastructure accessing process and the maintenance request responsiveness by the authority were areas that need improvement. Fairness on the distribution of the water infrastructure and the rate of fee for water use were not found critical from the analysis.

Level of coordination with other infrastructure providers was almost nil indicating that there was no collaborative effort in addressing the residents' infrastructure need.

The power sector analysis

The major challenge identified in the provision access of the power was lack of adequate power supply source followed by excessive bureaucratic process and limited technical capacity in the district office. The governance structure and adequacy of supply and the limited capacity of the technical staff were found critical challenges in the power supply provision. Hence, the power

sub sector was not adequately responsive to community demand except following its marginal planned expansion.

Power cut was a major problem identified by majority of the respondents. More over most of the water supply deficiency was associated with the frequent power cuts. Issue of fairness in the distribution of power infrastructure was not complained by focus group members during discussion.

The community mobilization in the cost sharing for power supply was found minimal and uniformity and standardization of scheme to ensure enhanced participation was not in place. More over the level of coordination among the infrastructure providers in the town was nonexistent.

The road subsector analysis:

Major challenge identified in road infrastructure provision was the limitation of financial capacity by the authority followed by the office's bureaucracy and transparency and accountability concerns.

The road subsector was found external resource dependent, deficient in resource mobilization and lacking transparency. Hence, critical resource mobilization and town master plan and strategic plan based road infrastructure provision was found a requirement.

Quality of infrastructure and maintenance responsiveness by the authority was critically deficient.

Effort to ensure significant community participation for the infrastructure provision was only meagre.

In general, increased rural-urban migration, increased complexity of the town economic and social infrastructure, increased geographic expansion along side with limited increase in the capacity of the providing institutions has created imbalance between supply and demand of urban infrastructure in the town.

The level of coordination among the three sub sectors for integrated provision was found weak. This is one of the major areas that need improvement in the overall provision of infrastructure to the town.

Major challenge common to all infrastructure provision in the town was infrastructure finance shortage followed by limited access for the supply especially for water and power supply.

When the prospects for future provision were examined, the water sub sector was found the most critical of the three due mainly to its limited supply source and expansion opportunity. But overall performance on the water subsector was evaluated better compared to power and road sub sectors.

Community participation, though at average level and significant it may be, enhancing is possible through appropriate participation scheme, transparency and accountability improvement in the sectors. This would furnish the much wanted financial resource and improvement in private- public partnership in the infrastructure provision.

5.2. RECOMMENDATIONS

The town infrastructure provision challenges and opportunities analysis has resulted in major conclusions as indicated above. The following recommendations are given based on the conclusions:

The major recommendation goes to the water subsector infrastructure expansion in the town and supply improvement by the authority. Water supply is in critical shortage both in access and quantity to the sampled residents. The potential for expansion of the supply source was found limited according to the respondents perception so that it would be a critical challenge to the system. Mechanisms should be in place to adequately supply water for the growing population of the town.

Recommendation for the power subsector goes in the form of improving the power access and capacity to users on faster, fairer and transparent basis. The capacity of the district office and

associated infrastructure along side with the technical capacity of the officers has to be improved. Moreover the frequent power cut problem has to be taken in to account.

Recommendation in the road subsector goes dominantly on the resource mobilization, community participation, increased transparency and accountability and improved quality of the infrastructure vis-à-vis fairness in infrastructure distribution by relevant stakeholders.

Transparency and accountability would still be important component in overall infrastructure provision to the town. This aspect of the provision of infrastructure has to improve by respective offices.

The major challenge identified along the infrastructure types examined so far include financial resource shortage, technical capacity and shortage of supply sources or capacity. This indicates that increased community participation through transparent scheme, staff capacity building and continuous investigation of supply sources would be critical agendas for the responsible authorities. The demand side of the services cannot easily be controlled compared with the supply side.

Coordination of the activities of the infrastructure through joint planning would enhance efficient utilization of resources. This has to be done by the City Administration to the level that best integrate the planning and performance of the infrastructure projects and further strengthening the private- public partnership in the process.

Prospects of the infrastructure provision have to be worked out strategically by respective authorities given the existing supply gap and highly growing urban infrastructure demand in the town.

Further studies can take up the social infrastructure aspects, drainage system infrastructure challenges and related urban poverty and unemployment challenges in the town.

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ANNEX

CHALLENGES AND PROSPECTS OF URBAN INFRASTRUCTURE PROVISION:

THE CASE OF POWER, WATER AND ROAD SUBSECTOR IN HOSSANA TOWN

Questionnaire

Date 03/02/2018

Introduction

As part of my MA research thesis at Addis Ababa University, Department of Development Management in the Institute of Development Studies; I am conducting a survey that investigate the challenges and prospects of urban infrastructure provision; the case of water, power and road sub sector in Hossana town. I will appreciate if you could complete the following questionnaire. Any information obtained with this study that can be identified with you will remain confidential.

Respondent Details

Sub city _____ Kebele _____

Name (Optional) _____ Age _____

Gender: Male ☐ Female ☐

Marital Status: Married ☐ Single ☐ Divorced ☐ Other ☐

Occupation: Civil Servant ☐ Non Governmental Organization ☐ Private ☐ business
Small and Micro Enterprise ☐ Self employed ☐ Pensioner ☐ Farmer ☐

Other specify _____

Family size: < 3 ☐ 3-5 ☐ 6-10 ☐ More than 10 ☐

Part one: Water Sub-Sector

1. Do you have access to clean drinking water in your compound? Yes ☐ No ☐
2. If your answer for question 1 is no, where do you get your drinking water from?
 - Community water spots ☐ Underground water ☐
 - Private providers ☐ Other sources Specify _____
 - Nearby water spring ☐
3. If your answer is yes to Question no. 1, when did you get the access?
 - Less than a year ☐ 2-5 years ☐ 6-10 years ☐ Before 10 years ☐
4. How long did it take to have the access after applying to the relevant office?
 - Less than a month ☐ 2-6 months ☐
 - 7 months -1year ☐ 1-5 years ☐
 - Above 5 years. ☐
5. Did you make any cost sharing during the infrastructure provision? Yes ☐ No ☐
6. If yes for the question no. 5 above, how much was the share from your side or your community?
 - Up to 5% ☐ 6-10% ☐
 - 11-25% ☐ More than 25% ☐
 - No fixed rate ☐
7. If your answer for the question 5 is no, why didn't you participate in the provision?
 - No scheme to do so ☐ Not requested ☐
 - No need to do so ☐ Community not willing ☐
 - If other reason _____
8. How do you evaluate the fairness in the service provision to the community?
 - Very fair ☐ Fair ☐
 - Somewhat fair ☐ Not fair ☐
 - Can't judge ☐
9. How quality is the infrastructure provided to date?
 - Excellent ☐ Good ☐

- Fair ☐ Poor ☐
- Very poor ☐

10. How well does the service provided meet your needs?

- Extremely well ☐ Not so well ☐
- Very well ☐ Not well at all ☐
- Somewhat well ☐

11. How responsive have the service providers been to your question or concern about the service?

- Extremely responsive ☐ Not so much responsive ☐
- Very responsive ☐ Not at all responsive ☐
- Somewhat responsive ☐

12. How would you rate the value for money of the water service provided?

- Excellent ☐ Below Average ☐
- Above average ☐ Poor ☐
- Average ☐

13. Place order of importance to you the following challenges in the provision of water infrastructure in the town: (1 for very important challenge...)

- Lack of finance ☐
- Lack of technicians ☐
- Excessive bureaucracy ☐
- Shortage of water supply source ☐
- Lack of input for the infrastructure ☐
- Topographic problem ☐
- Increase in the town population ☐
- Water management and timing ☐
- Water utility problem of the community ☐
- If other , specify_____

Part two: Power Sub Sector

14. Do you have access to electric power supply in your house? Yes ☐ No ☐

15. If your answer is yes to question 14 above, when did you get the access?

- Less than a year ☐ 2-5 years ☐
- 6-10 years ☐ before 10 years. ☐

16. How long did it take to have the service after application for service?

- Less than a month ☐ Within one year ☐
- 2 Years ☐ Above 2 years ☐

17. If your answer for question 14 is no, why did not you get the access?

- Not affordable ☐ No private house ☐
- Excessive bureaucracy from the authority ☐
- Lack of community participation ☐
- Lack of finance ☐
- Other reason, Specify? _____

18. If your answer for the question 14 above is no, where do you get the electric supply from?

- Private households ☐
- Non-governmental organizations ☐
- Not using from any source ☐
- Solar and related fuel power ☐

19. Do you have cost sharing mechanisms to get access of electricity supply?

Yes ☐ No ☐

20. If your answer is yes to question 19, how much percent is expected as a community?

- Up to 5 % ☐ 6-10% ☐
- Above 10% ☐ No clearly set standard for community contribution ☐

21. If your answer is no to question 19, why don't you participate in the service provision?

- Not demanded by the authority ☐
- No need to do so as it is the task of government ☐
- No awareness ☐
- No mechanism set to ensure participation ☐

22. How do you evaluate an element of fairness by the authority in the provision of electricity access to communities?

- Very fair ☐ More or less fair ☐
- Lack fairness ☐ Not very fair ☐
- Can't judge ☐

23. What are the commonly prevailing challenges in accessing electricity supply in the town?
Rate the following according to their level of importance to you as a challenge (*Rate 1 as most important challenge*).

- Excessive bureaucracy of the office ☐
- Lack of infrastructure input ☐
- Financial constraint ☐
- Technical Constraint ☐
- Topographic constraint ☐
- Limited community participation ☐
- Corruption and nepotism ☐
- Lack of power supply capacity ☐
- Others, Specify _____

24. How well does the electric service provided meet your daily needs?

- Extremely well ☐ Very well ☐
- Somehow well ☐ Not well ☐
- Not at all well ☐

25. How responsive have the electric service providers been to your question about the service?

- Extremely responsive ☐
- Very responsive ☐
- Somehow responsive ☐
- Not so much responsive ☐
- Not at all responsive ☐

26. How would you rate the value for money of the service delivered?

- Excellent ☐

- Above average ☐
- Average ☐
- Below average ☐
- Poor ☐

27. How frequent is the power cut problem troubling you now a days?

- Very much ☐
- Much ☐
- Rarely ☐
- Not at all ☐

Part three: Road Infrastructure Sub-Sector

28. Do you have an all-weather road access from your house to the different service centres in the town? Yes ☐ No ☐

29. If your answer is yes to question 28, which type of road access do you have?

- Crashed stone ☐ Aspha ☐
- Coble stone ☐ Paved soil ☐
- All types ☐

30. If the answer for the question 28 is no, why didn't you get the access?

- No attention given by the municipality ☐
- Our turn to access the service is not yet ☐
- Because it is a new settlement ☐
- Lack of community participation ☐
- Corruption and nepotism from the authority ☐
- If other, specify _____

31. How participatory and planned is the road infrastructure provision mechanism in the town? ☐

- Very participatory ☐
- Somehow participatory ☐
- Not participatory ☐
- No clear mechanism for participation as such ☐

32. How satisfying is the quality of construction for the town road provision?

- Very standard and satisfying ☐
- More or less standard quality ☐
- Below standard quality ☐
- Very low quality road ☐

33. What do you think are the major challenges to ensure road access to the community in the town? Rate according to the level of importance to you, (1 for the most important factor).

- Lack of municipal financial capacity ☐
- Lack of community participation ☐
- Excessive bureaucratic procedure and corruption ☐
- Excess demand from the population ☐
- Topographic challenges ☐
- Limited Technical capacity ☐
- Unplanned spacial expansion of the town ☐
- System of governance and administration ☐
- Lack of public-private collaboration ☐
- If other, specify _____

34. How fast and regular is the response for maintenance of the existing road infrastructure in the town?

- | | |
|--------------------------------------|----------------------------------|
| • Excellent ☐ | V. Good ☐ |
| • Good ☐ | |
| • Fair ☐ | Poor ☐ |

35. How do you rate the coordination among the three sub sectors in provision of the services?

- | | |
|--------------------------------------|-------------------------------|
| • Excellent ☐ | Good ☐ |
| • Fair ☐ | Poor ☐ |
| • Very poor ☐ | |

36. Rate the infrastructure provision problem in the town according to their criticality in the level of short supply(1 for the most deficient service being provided)

- Water sub sector ☐

- Electricity subsector ☐
- Road subsector ☐

37. How significant is the community participation rate in the provision of the three services in Hosanna town?

- Very significant and promising ☐ Significant ☐
- Less significant ☐ Insignificant ☐
- Almost nil ☐

38. Rate the following constraints in their level of importance in the three sub sectors service provision in general (Give very Important=1, Important=2, Neutral=3 Unimportant=4 and Very unimportant=5). Answer by circling.

VI I N U VU

- | | | | | | |
|--------------------|---|---|---|---|---|
| • Financial | 1 | 2 | 3 | 4 | 5 |
| • Technical | 1 | 2 | 3 | 4 | 5 |
| • Administrative | 1 | 2 | 3 | 4 | 5 |
| • Topographical | 1 | 2 | 3 | 4 | 5 |
| • Input deficiency | 1 | 2 | 3 | 4 | 5 |

39. Which of the three subsectors do you think lack adequate prospects for expansion and increased provision in Hossana town?

- Water sub sector ☐
- Electric power sub sector ☐
- Road subsector ☐

40. How efficient do you think is the utilization of the services at the household level (Water, Electricity and Road system)?

- Very efficient ☐ Efficient ☐ Poor ☐ Very poor ☐

THE CASE OF POWER, WATER AND ROAD SUBSECTOR IN HOSSANA TOWN

SECONDARY DATA FROM RESPECTIVE OFFICES

- 9

14. Major infrastructure projects under implementation_____
15. Amount _____ of _____ the _____ project
finance_____
16. Total population of the town getting the service _____
17. Total _____ demand _____ for _____ the _____ service _____ at
hand_____
18. Gap _____ in
percentage_____
19. Does planned expansion of the service exist? Yes/No_____
20. Does planned infrastructure maintenance system exist? Yes/No_____
21. By how much % does the demand for the service increase every year?_____
22. By how much % does the service coverage on average expanding every year?

23. Any specific delivery system/ rationing of the utilities? Yes/No_____
24. Does the institution have strategic plan? Yes/ No_____
25. Does the institution have annual plan for service expansion? Yes/No_____
26. Does the institution have stakeholder's forum? Yes/No_____
27. Does the institution have community participation manual/mechanism?
Yes/No_____
28. Is there any coordination mechanism among infrastructure providing sectors(Power,
Water and Road)?Yes/No_____
29. If yes, is there any framework governing the functioning? Yes? No_____
30. What are prospects in the expansion of the service for the coming years?

31. List major constraints in the provision of the service to Hossana town:
32. Give order of importance to the following category of challenges in the service provision
(Give 1 for the most challenging factor):
_____Financial
_____Administrative/governance
_____Technical

_____Topographic
_____Legal (Property rights)
_____Other inputs for infrastructure building
_____limited community participation
_____other related factors

Thank you so much!!

QUESTIONS FOR FOCUS GROUP DISCUSSION

1. Adequacy of the quantity and quality of provision

- Which sector is more critically deficient and why?
- Which sector is more or less vibrant?

2. Major bottle necks in the sectors?

- Resource, technical, governance, geography, excessive demand

3. Effort for planned delivery and planned maintenance of the infrastructure?

- Planned delivery
- Planned maintenance
- Coordination among the subsectors

4. Level of fairness and transparency leading to accountability

- How fair and transparent is the provision?
- How accountable are the systems?

5. Efficiency in the service delivery system

- How efficient are the services delivered?
- How cheap are the service fees (Value for money)?
- How timely is the response for request?

6. Community participation level

- Extent of participation in clear patterns
- Legal frame work for ensuring participation
- Willingness level assessment if any
- How to ensure the participation

7. Residents satisfaction level on the provision of the infrastructure

- The perception of the public
- Mechanism to assess the satisfaction level
- Where lies much dissatisfaction
- If there is any location difference

8. Prospects and potential for improvement along the three sub sectors

- Which sector and what prospect?
- Is the prospects clearly known strategically planned by responsible offices?

9. Nature of changing demand or growth of population

- Social and economic institution
- Increase in resident households
- Migration patterns

10. Important suggestions on the narrowing the gap in the demand for infrastructure and supply!!