



Private Sector Landscape for WASH in Ethiopia

Bottlenecks and opportunities

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Executive summary

Private sector contribution to Ethiopia's water and sanitation goals

The Government of Ethiopia identifies water and sanitation as priority areas for achieving sustainable growth and poverty reduction and has set targets in the Growth and Transformation Plan to achieve 98.5% access to improved water supply, 100% sanitation access and improvements in hygienic behaviour.

Service development through collaboration between the private and public sectors has been identified as a fundamental strategy to achieve these targets. Increasing the private sector role could speed up the establishment of water services and waste disposal and free the public sector to focus on setting policies, strategies, and to ensure regulation and licensing.

Yet the capacity and effectiveness of private companies is very limited. Policies to expand the private sector role are not yet effective in practice.

A more efficient and competitive private sector could be expected to reduce the cost of water supply development and solid and liquid waste management. Improving the capacity of Ethiopian drilling companies could reduce reliance on a small number of larger foreign owned companies that may be dominating some areas of work. There is also a need to develop the private sector in the regions as capacity at present is heavily skewed towards the capital city.

UNICEF asked IRC to undertake a study to assess the role of the private sector in WASH, to identify key bottlenecks to improved service delivery by the private sector and propose recommendations for the One WaSH National Program (OWNP) that is working towards achieving the targets through coordination of sector efforts.

Through interviews, discussions and a study of sector documents, the study has revealed a number of endemic problems in the development of the private sector.

Although the private sector, including the informal sector, contributes over 80% of GDP there has been little expansion in water and sanitation services. The mandate of the Ethiopian Privatization Agency (EPA) does not cover utilities or infrastructure and the role of the private sector has been largely limited to study and design services, construction and drilling wells, supply of goods, maintenance services and solid and liquid waste collection and transportation.

One area of growth has been in commercial private drilling companies where 96 companies are estimated to be working using about 180 drilling rigs. There are almost 1,000 private contractor companies employing 4,000 professional and semi-professional staff in Ethiopia, although not all work in the water sector, and 45 water consulting firms employing about 250 professional staff.

Key recommendations

The report makes a number of recommendations, particularly in the areas of well drilling, solid and liquid waste management and in developing private sector water supply in small towns through what is known as Build-Operate-Transfer arrangements.

Three key areas for improvement are:

- **Finance:** making it possible for companies to invest in equipment to expand and become more efficient. Currently it is bordering on the impossible to obtain loans and credits for the WASH sector even from the Development Bank of Ethiopia. Ethiopian companies rarely have the most up to date technology or an adequate equipment.
- **Reducing bureaucratic obstacles:** in particular slow decision making in awarding contracts, and in taking decisions to overcome problems that arise during the work. There is evidence that delays and bureaucracy drive up prices and act as a disincentive to developing innovative local services to tackle the growing problems of dealing with waste, including faecal waste.
- **Improving the performance and capacity of the private sector itself.** Some private sector bottlenecks are self-inflicted, such as underbidding to win contracts which cannot be delivered to the right quality and time frame, and a failure by consultants to survey sites and correctly specify contracts which leads to delays, extra cost and low quality.

There is a need for some policy and legal changes, for example to specify how the private sector can play a role in operating water supply services and effectively regulating and monitoring performance.

There is a need for training and for opportunities and forums for the public and private sectors to interact and to learn from each other. The report says that the Government should consider extending incentives for the private sector in other parts of the economy to water and sanitation services.

Steps are needed to strengthen the small scale informal sector that makes an important contribution to local services but, through lack of capacity and supervision, puts its own health and the health of the community at risk in working with liquid and solid waste.

The report recommends that the National WaSH Coordination Office (NWCO) takes the lead in coordinating and implementing agreed action plans, with support from UNICEF, DFID (which funded the study), and the Ministry of Water, Irrigation and Energy (MoWIE) and key stakeholders.

It recommends that these partners select one town to pilot the introduction of a build-operate-transfer arrangement with a private company for water supply and another town to introduce solid and liquid waste collection and transportation technologies, capturing and sharing the lessons with the wider sector. The report calls for a special fund to be established to support start up private companies in drilling and solid and liquid waste management.

The report has been submitted to UNICEF for discussion amongst key sector stakeholders.

January 2015

Acronyms

| | |
|--------|---|
| ADB | Asian Development Bank |
| ADLI | Agricultural Development Led Industrialization (strategy) |
| BOO | Build-operate-own |
| BOT | Build-operate-transfer |
| CIF | Cost, insurance and freight |
| CMP | Community managed projects |
| DBE | Development Bank of Ethiopia |
| DBO | Design-build-operate |
| DFID | Department for International Development |
| EPA | Ethiopian Privatization Agency |
| EWRMP | Ethiopian Water Resources Management Policy |
| GDP | Gross Domestic Product |
| GoE | Government of Ethiopia |
| GTP | Growth and Transformation Plan |
| JICA | Japan International Cooperation Agency |
| MeTEC | Metal and Engineering Corporation |
| MFI | Microfinance institution |
| MoWIE | Ministry of Water, Irrigation and Energy |
| MoU | Memorandum of understanding |
| MSEDA | Micro and Small Enterprise Development Agency |
| NGO | Non-governmental organisation |
| NWCO | National WaSH Coordination Office |
| O&M | Operation & maintenance |
| OECD | Organisation for Economic Co-operation and Development |
| OWNP | One WaSH National Program |
| PASDEP | Plan for Accelerated and Sustainable Development to Eradicate Poverty |
| PSP | Private sector participation |
| ROT | Rehabilitate-operate-transfer |
| SME | Small and micro enterprises |
| SNNPR | Southern Nations, Nationalities, and Peoples' Region (of Ethiopia) |
| TVETC | Technical and Vocational Educational Training Center |
| UAP | Universal Access Plan |
| UNICEF | United Nations Children's Fund |
| WASH | Water supply, sanitation and hygiene |
| WIF | WaSH Implementation Framework |
| WSS | Water supply and sanitation |
| WWDSE | Water Works Design and Supervision Enterprise |

1. Introduction

1.1 Water supply, sanitation and hygiene (WASH) in Ethiopia

Despite its poor and largely rural population, coupled with a historical legacy of low investment in infrastructure, Ethiopia has made substantial progress in increasing water supply and sanitation coverage from 19% and 5% respectively in the 1990s, to more than half the population today. Much of the increase in access to sanitation has taken place since 2000, when the Health Extension Program was introduced. The increase in water supply access accelerated since 2004 with decentralised implementation of water supply development.

During the same period, the Government of Ethiopia (GoE) introduced a range of policies, legislation and strategies including the National Water Resource Management Policy (1998), Water Sector Strategy (2000), Water Sector Development Program (2002), Water and Sanitation Access Plan (UAP) (2005), Memorandum of Understanding (MoU) signed by three sector ministers in 2006 and a revised MoU signed by four sector ministers in November 2012.

In 2013, the Government adopted a WaSH Implementation Framework (WIF) and the One WaSH National Programme (OWNP) as a framework for harmonising Government and donor approaches to planning, procurement, implementation and financing. The OWP serves as the platform on which a closer partnership between planners, implementers, development partners and others to achieve common goals can be built.

The Rural Water Supply Universal Access Plan (UAP) (2011-2015) aims to accelerate progress to achieve 98% access to improved water supply for the rural population with an annual growth rate of 9%. The water supply component of the last Plan for Accelerated and Sustainable Development to Eradicate Poverty (PASDEP) (2006-2011) extracted from the UAP and adopted as a national plan has allowed development partners to align their plans and programmes with the Government plan.

According to the National WASH Inventory conducted in 2011, access to water and sanitation was 52% and 63% nationally, respectively.

GoE has set out its goals in the Growth and Transformation Plan (GTP), which identifies water and sanitation as priority areas for achieving sustainable growth and poverty reduction. In line with the GTP, GoE has prepared its UAP, with the following targets:

- 98.5% access to water supply, and reduction in the proportion of non-functioning facilities to 10%.
- 100% sanitation access, and 77% of the population to practice hand washing at critical times, safe water handling and water treatment in the home, and 80% of communities to achieve open defecation free status

In spite of this progress and these efforts, millions of Ethiopians are still without access to safe and reliable water supply and sanitation facilities.

WASH service development through collaboration between the private and public sectors has been identified as a fundamental strategy to rectify the situation and achieve the GTP targets. Yet the current capacity of the private companies is very limited to meet the current demands to achieve the targets of GTP. Although, the numbers of private companies are growing, their effectiveness has been very limited.

In recognition of these problems, UNICEF initiated a study to assess the role of the private sector in WASH and to identify key bottlenecks that hampered the achievement of improved service delivery by the private sector. This is a report of this study which was set up to analyse the role of the private sector in WASH, identify bottlenecks, and propose recommendations to address problems, increase the efficiency of the private sector and support the achievement of WASH UAP targets.

UNICEF appointed the IRC/Hoarec consortium the One WASH Plus Programme to undertake the study and set out overall recommendations for the One WaSH National Program (OWNP).

1.2 Scope of the study

The main objectives of the study were to:

- Provide an overall analysis of the current Ethiopian WASH private sector landscape, and recommendations to support the One WaSH National Program (OWNP) and related programming by DFID to support the private sector.
- Support the ONEWaSH PLUS programme (implemented by UNICEF with DFID finance) through in-depth assessment of the challenges faced by business in relation to WASH in small towns.

The study addressed the following main research questions:

- What are the current roles of the private sector in WASH services provision and the main trends (including mapping private sector roles and value chains for different WASH sub-sectors)?
- Who/what are the main actors, institutions, legislation, policies, and programmes relevant to private sector involvement in WASH?
- What are the critical bottlenecks i.e. factors constraining engagement, growth and performance of the private sector in WASH? This included identifying the critical challenges in the enabling environment e.g. access to finance, capacity of the private sector and government, access to business development services, knowledge, technology etc. and ranking these constraints in relation to factors such as impact/payoff and how actionable they are.
- How can key bottlenecks to private sector engagement in WASH be addressed? In addition the causes of bottlenecks and potential interventions to remove them have been identified.
- How to effectively implement recommendations relating to the removal of bottlenecks in private sector engagement in WASH? This has included recommending an overall strategy or options, identifying priorities/best bets, identifying who should do what etc. Some sub-questions relating to coordination and monitoring were identified
 - How can the WASH sector promote dialogue, awareness and coordination between government, donors and the private sector to address bottlenecks and enhance the role of the private sector in WASH?
 - What are the critical issues to be considered in sector monitoring to review progress of private sector engagement in WASH?
 - How can the developments in green growth strategy be best linked to?

The study looked at the following sub sectors in some depth:

- Small and medium sized-enterprises in urban sanitation including solid and liquid waste collection, management and disposal and sanitation hardware provision. Amongst other issues this included assessment relevant to women's groups, and health and safety.
- Small and medium-sized contractors in town water supply. Who is doing what and where? What are the procurement, financial and contractual barriers? What is the impact of design and transfer modalities versus build-operate-transfer (BOT) or design and build?
- Private shallow and deep well drilling companies, including analysis of financial, financing and procurement barriers to entry for private companies.

2. Methodology and approach

2.1 Study scope and sources

This study has covered:

- 1) Works: construction of water and sanitation facilities;
- 2) Goods supply of pipes and fittings, electromechanical equipment, pumps and generators, spare parts, water quality kits etc. and
- 3) Services, especially those related to functionality and sustainability, including operation and maintenance.

The main approach of the study has been to draw on multiple sources of information including a desk review and data collection through key informant interviews. Sources include studies, annual reports, unpublished assessments, official documents such as legal documents, policies, programmes, sectoral strategies and research papers. Questionnaires were used to interview key informants and to guide discussions with relevant persons. The questionnaires are attached at Annex 1. The preliminary findings will be reviewed through stakeholder consultation e.g. through a workshop or seminar held to discuss the draft report.

Analysis focuses on identifying and addressing bottlenecks in the supply side for private sector suppliers of goods and services related to WASH. This report has identified critical challenges and constraints facing the private sector in WASH as well as recommendations to enhance the contribution of the private sector to accelerated and sustainable provision of WASH services.

2.2 Document review

The Consultant was given access through UNICEF, Directorate of the Ministry of Water, Irrigation and Energy (MoWIE) and other key stakeholders to relevant documentation and supporting materials necessary to commence the study. The following documents have been reviewed:

- Water Resource Management Policy, 2000
- Ethiopian Water Sector Strategy, 2001
- Ethiopian Water Resource Management Proclamation, 2000
- One WASH National Program Document, 2013
- Assessment of Water Drilling Companies in Ethiopia, 2011
- Cost Effective Boreholes, Ethiopian Case Study, 2006
- Implementation Completion Report of Water Supply and Sanitation Project, 2014
- Annual WASH Report, 2012, 2013
- Presentation by Private Sector Representatives to Sector Review Workshop, November 2014 (unpublished)
- Landscape Analysis and Business Model Assessment in Faecal Sludge Management, Extraction and Transportation in three Cities of Ethiopia, 2011
- Sanitation Strategic Plan for Seven Towns, Water Aid, 2012
- Comparative Analysis of Water Well Drilling Costs and Technology in Ethiopia, WWDSE, 2004
- Addis Ababa Water and Sewerage Authority, 10 Year Business Plan, 2011
- Water Supply, Sanitation and Hygiene Program, Ethiopia, Business Case-DFID Ethiopia, 2013
- The Role of Private Sector Participation (PSP) for Sustainable Water Supply and Sanitation Sectors, The Case of Latin America, Shigeki Furukawa, 2005
- Developing Best Practices for Promoting Private Sector Investment in Infrastructure, Water Supply, ADB, 2000
- Private sector Participation in Water and Sanitation Infrastructure, OECD, 2007

- Build Own Operate Transfer – Real World Comparisons, 2011

2.3 Interviews and discussions

To bridge the information gap and enrich the report, the Consultant held thorough discussions with key stakeholders from WASH organisations, private companies, individuals and relevant associations. A list of these individuals and their organisations is given below:

- Abiy Girma, National WASH Coordination Office, MoWIE
- KifleAlemayehu, Director, Water Resource Administration and Licensing, MoWIE
- ZewuduTefera, Director, Legal Service, MoWIE
- TamiruDegefa, WASH PMU, Coordinator, MoWIE
- Samuel Tolessa, Oromia Region Water Resource Bureau
- Moohamed Ahmed, Somali Region WASH Office
- Ahmed Mohamed, Addis Ababa Water and Sewerage Authority
- GetahunTagesse, Manager, GTB Construction (Chairman of the Private Contractors and Drillers Association),
- SahlemariamZegaw, Manager, SZ Construction Company
- Shiferawu Lulu, Tam Geo Engineering, Drilling Company
- EstgenetBerhe, Tana Drilling Company
- Anteneh Kassa, Tensae International Trading, Supplier
- Kasahun Getachew, Summation Plc Supplier
- HailuYemaneh, HYWAS Engineering Consultants
- YetinayetNegusse, Karamara Engineering Consultants
- Petros Teklewold, Representative Utility Forum
- AtoYehhwalashet Deme, Head Water Utility (Mojo district)
- Ato Ibrahim Adem, Manager, Huruta Water utility
- Ato Addis Mengistu, Dera Water Utility
- AtoAbayYilma, Sanitation Head, Huruta Town
- AtoHadiguGirmay, Head, Beautification Department, Shire town
- MahletNegussie, Chamber of Commerce
- Abdul Hakim, Development Bank of Ethiopia

2.4 Consultations

Preliminary findings will be presented to WASH stakeholders for review and comment. An attempt will be made to reach consensus on key strategic recommendations and plan of actions.

3. Private sector overview

3.1 Private sector in Ethiopia

The role of the private sector has increased from a standing start. It was virtually non-existent in the 1980s and has now become a major source of economic development. According to some studies (discussed in section 5.1) the private sector including the informal sector contributes over 80% of GDP. The private sector is primarily involved in agriculture, manufacturing, transport, construction, services and trade. The role of the private sector in utilities is very limited as shown in section 5.8.

The major growth in the private sector occurred in the years from 1992/93 to 2000/01 when private companies are estimated to have invested over 44 Billion Birr in over 6000 projects¹. Ten years ago, according to the Chamber of Commerce Study on Company Registration², a total of 402,000 companies were registered in three key regions, including Addis Ababa, which has the greatest number of companies. The same study indicated that the MoTI estimated that there were some 650,000 companies registered throughout Ethiopia. Another study³ by Chamber of Commerce indicated that there were around 100,000 business companies clients of the Commercial Bank of Ethiopia and the OECD has estimated around 65,000 medium and small enterprises in the countries.

In 2008/09, private companies (the formal private sector) invested around 31 Billion Birr and were employing around 2.3 Million⁴ people. All these figures show that the private sector has been growing significantly in terms of its size in numbers, employment and investment potential. These developments were the result of economic policy in the country in the early 1990s that recognised the role of the private sector. Related to these policies, the Government established the Ethiopian Privatization Agency to promote the role of the private sector.

The Ethiopian Privatization Agency (EPA) is responsible for implementing the Government's privatisation programme of public enterprises and is accountable to the Ministry of Trade and Industry. Its objectives are to generate revenue to finance Government development activities, to free the Government to channel its efforts into activities requiring its attention, and to promote economic development through expansion of the private sector. Privatisation is conducted in three main ways: outright sale, joint ventures with the public sector, and leasing to commercial and manufacturing companies. However EPA's mandate does not include utilities, infrastructure or financial services.

Recently the GoE agreed to introduce independent power producers in the electricity sector to generate and sell electricity to the Government-owned electric utility. This sets a good precedent for private sector participation in other utilities including town water supply.

3.2 Private sector participation in WASH

The change in the overall socio-economic environment of the country has triggered subsequent changes in the political, economic and social structures. Institutions that used to be governed by a command type of economic policy now have to operate within a market-oriented and competitive system in order to synchronise their mode of operation to the requirements of the prevailing institutional framework.

Since 1991 the Government of Ethiopia has initiated an economic policy which has facilitated the role of the private sector. Following these changes the private sector has started to play a role in provision of WASH services, but limited to the following areas:

¹Minale, Macroeconomic Development and Private Sector Performance in the 1990s

²Company Registration in Ethiopia, Chamber of Commerce, August 2005

³The Road to Private Sector Led Economic Growth, Alemayehu Geda, Chamber of Commerce, 2008

⁴ A Study on the Determination of the Share of the Private Sector in Ethiopian Gross Domestic Product, 2010

- Providing study and design services
- Construction services
- Drilling of wells
- Supply of goods
- Providing solid-waste collection and transportation services
- Providing liquid-waste collection and transportation services
- Provision of maintenance services
- Financial services (Microfinance institutions in rural WASH)

The private sector also plays a key role as implementors of OOWNP activities; most construction of water supplies is undertaken by private contractors and artisans. However, the limited number of private drilling companies in Ethiopia is not able to meet high and growing demand for drilling and groundwater development.

Banks and microfinance institutions (MFIs) play a useful role in providing financial services to communities, particularly for community managed projects (CMP) and self-supply activities. Some of these institutions are private. The private sector also provides consulting services for studies and designs in construction supervision for urban watersupply schemes.

Private suppliers, artisans and other service providers will have an increasingly important role to play in the OOWNP in establishing and servicing supply chains for WASH products, spare parts and repair services and in supporting Self-supply activities.

The capacity of the private sector to provide services required by the OOWNP is a serious constraint for implementation. The programme will therefore need to support a number of activities to increase the capacity of the private sector to provide works, goods and services required by the programme.

3.3 Water supply

While provision of water supply is still fully owned and operated by public organisations, the role of the private sector has been growing substantially, engaged in providing professional services (consultancy), supply of goods, constructing facilities, drilling wells and maintenance services.

3.4 Urban sanitation

For solid waste management, the private sector is involved in primary and secondary collection. Primary collection from households is undertaken by micro and small enterprises. Secondary collection (from the primary collection points) is carried out by trucks which can typically take 8m³ solid waste. Most towns have temporary or permanently-protected dumping sites with varying levels of environmental protection. The operation of dumping sites is entirely by municipalities.

The private sector is also involved in the extraction and transportation of liquid waste. These operations are primarily concentrated in bigger cities with smaller towns acquiring services of operators from nearby towns. In some small towns manual operators extract faecal sludge from households using manual methods.

4. Private sector mapping

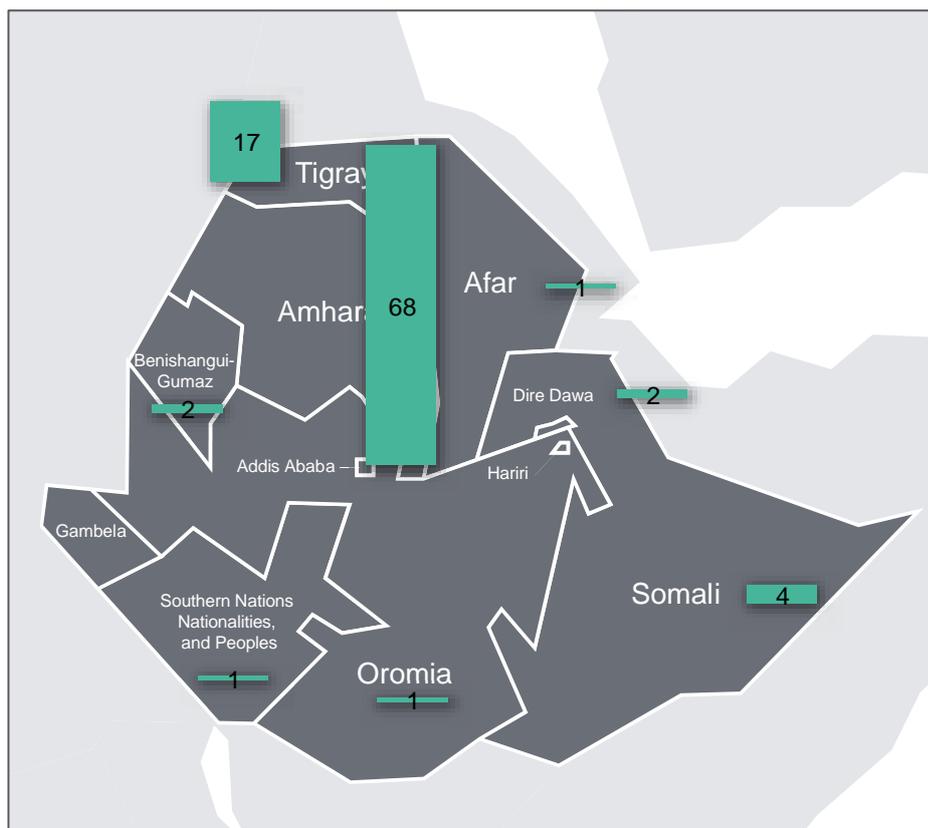
Much of the information in this report has been collected from the Licensing and Regulation Directorate of MoWIE. Licensing or registration with MoWIE is mandatory for consulting firms, contractors and drilling companies. There are different grades of consultants, contractors and drillers depending on the type and capacity of the machineries (equipment, tools and fleets) and qualifications or experience of the staff. Professional and technical staff also need to be licensed and graded with the MoWIE.

4.1 Drillers

The number of private drilling companies has substantially increased over the last three years. It is difficult to arrive at a precise total since some of the companies that have registered with MoWIE have gone out of business and because different figures are given by the Ministry and by industry representatives. This study has made an attempt to identify all the companies and has attached the full list as Annex 2.

According to information from MoWIE there are now 96 private drilling companies, 67 of which had renewed their licences for 2006 EC (2014).

Figure 1. Location of 96 private drilling companies in Ethiopia by region



The number of drilling rigs in 44 companies was made available from a study on assessment of capacity of drilling companies in Ethiopia (2011, Karamara Engineering), while information from a further 26 companies was obtained directly from the companies or other sources. That left another 26

companies for which the number of drilling rigs could not be found⁵. The exact number of rigs could not be ascertained as the Licensing Department of MoWIE provides a licence based on the company having available cash in the bank or having a rig but providing evidence of a rig is not mandatory. The MoWIE database does not record the number of rigs for each company.

However, based on available information, the number of drilling rigs known to be operated by private companies is 144. If we assume that each of the remaining 26 companies for which we do not have data has one drilling rig the total number of rigs by private companies is around 180. Of the 96 companies, 17 are owned by foreigners while 28 are located in regions, as shown in Figure 1.

Representatives of the Ethiopian Private Water Works Contractors Association (comprising contractors and drillers) gave a much higher number of 193 drilling companies when they made a presentation to a sector meeting in November 2014. However, this included all drilling companies that had registered with the MoWIE including those which had since gone out of business and those that were not renewing their licences.

4.2 Contractors

According to the Ministry of Water, Irrigation and Energy 993 private water works contractors had renewed their licences for 2006 EC (2014).

Table 1 Licensed private contractor companies in Ethiopia by grade⁶

| Grade of contracting company | |
|--|------------|
| Water Works Construction Contractor Grade 1 | 92 |
| Water Works Construction Contractor Grade 2 | 23 |
| Water Works Construction Contractor Grade 3 | 131 |
| Water Works Construction Contractor Grade 4 | 59 |
| Water Works Construction Contractor Grade 5 | 217 |
| Water Works Construction Contractor Grade 6 | 350 |
| Water Works Construction Contractor Grade 7 | 43 |
| Water Works Construction Contractor Grade 8 | 28 |
| Water Works Construction Contractor Grade 9 | 3 |
| Water Works Construction Contractor Grade 10 | 1 |
| Sub-total | 947 |
| Unclassified | 46 |
| TOTAL | 993 |

These companies employ around 4,000 professional and semi-professional⁷ staff. An exact number is not available, because of staff mobility and because some staff registered with these companies might not be staff members.

According to representatives of the Ethiopian private water works contractors and drillers at a sector meeting presentation in November 2014, there are 2,947 contractors. This includes all contractors registered with the MoWIE including those that have not renewed their licences.

Out of the 993 registered contractors 623 (63%) are located in Addis Ababa while 370 (37%) are located in other regions, the vast majority in the four largest regions, Amhara, Oromia, SNNPR and Tigray (see Figure 2).

⁵ Despite repeated telephone calls to the remaining companies; either the numbers were wrong or key people could not be reached.

⁶ Grades relate to the size and resources of the contractors, the largest and best resourced being Grade 1.

⁷ Professional and semi-professional are officially defined according to status of their qualification.

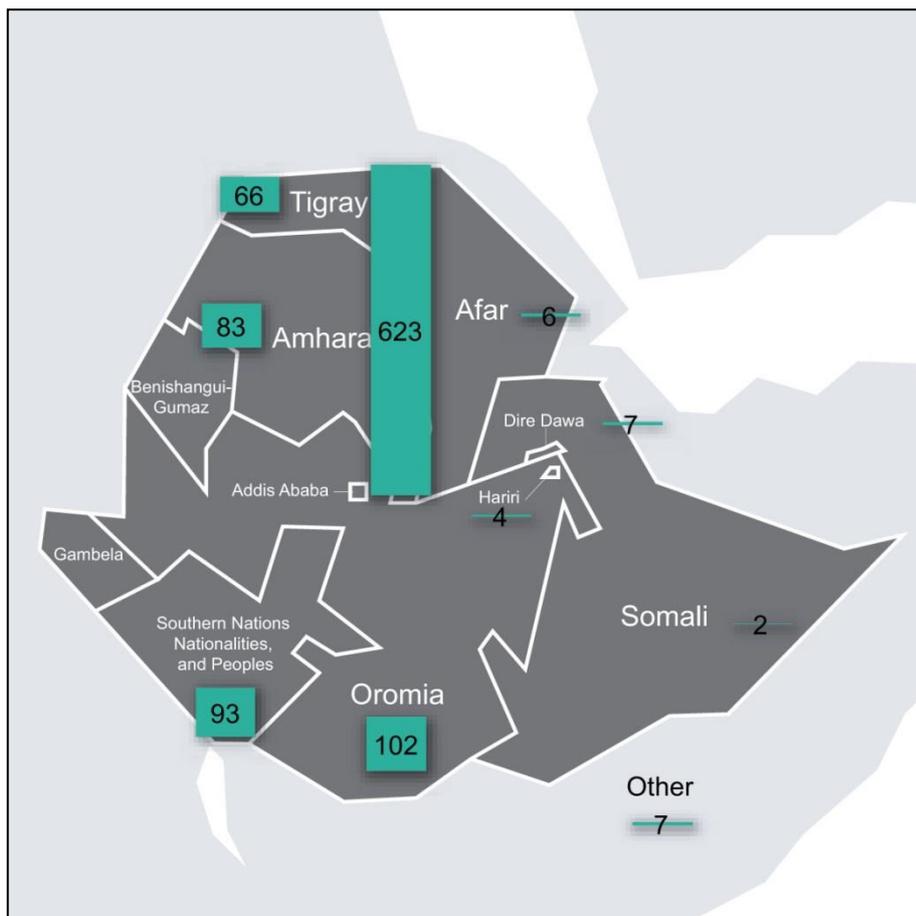


Figure 2 Location of private contractor companies in Ethiopia by region

4.3 Consultants

There are 45 water works consulting firms in the country of which 39 are located in Addis Ababa; while 6 are based in three regions (SNNPR 3, Oromia 2 and Tigray 1).

Table 2 Private consultancies in Ethiopia by grade⁸

| Consulting firms by Grade | |
|--|-----------|
| Water Resources Consulting Company Grade 1 | 6 |
| Water Resources Consulting Company Grade 2 | 1 |
| Water Resources Consulting Company Grade 3 | 4 |
| Water Resources Consulting Company Grade 4 | 1 |
| Water Resources Consulting Company Grade 5 | 18 |
| Water Resources Consulting Company Grade 6 | 15 |
| TOTAL | 45 |

⁸ Grades relate to the size and resources of the consultancies, the largest and best resourced being Grade 1.

There is no authoritative source that gives the number of staff employed by consulting firms. However, based on grading and requirements for each category there are estimated to be about 250 professional staff employed by these consultancies.

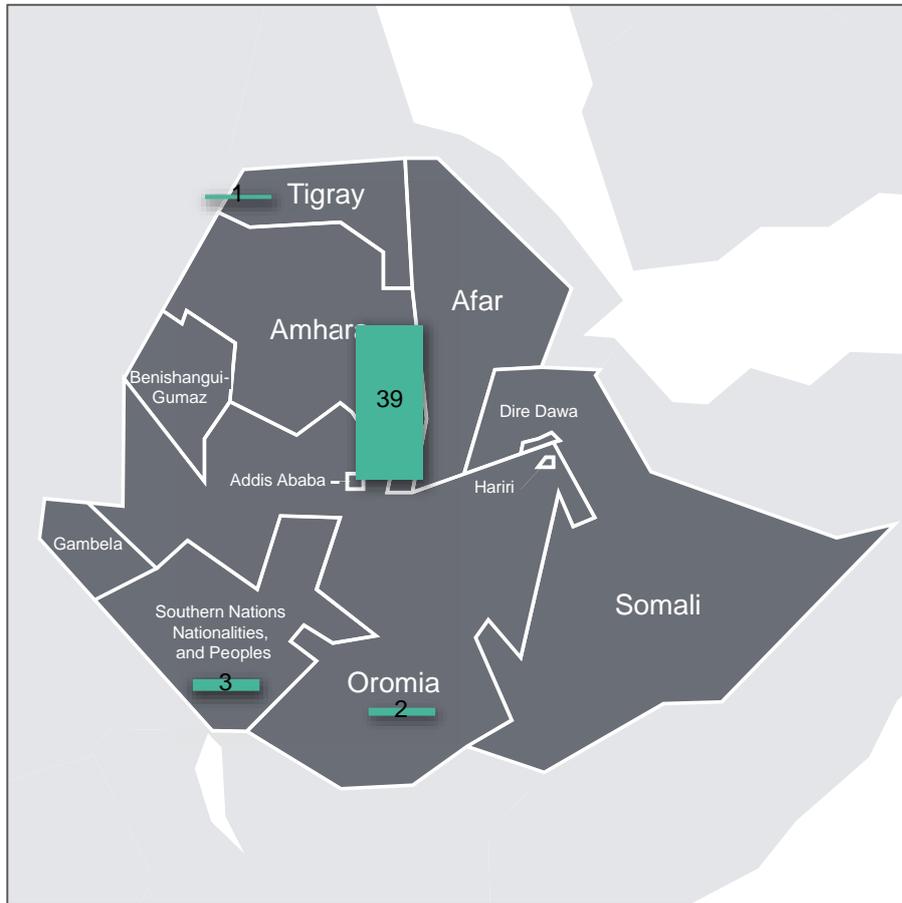


Figure 3 Location of private consultancies in Ethiopia by region

4.4 Suppliers

Suppliers (of pumps, generators, pipes, water meters etc.) are licensed and regulated by the Ministry of Trade rather than by the MoWIE. Since most of the suppliers are also working to supply for goods for other sectors, it is difficult to map the number and capacity of these firms engaged in the WASH sector. Discussions with WASH ministries and regional bureaus indicate that the number of major suppliers regularly working in the water sector is very limited, probably less than ten.

5. Opportunities

5.1 Enabling Environment

The private sector contributes substantially (over 75% of GDP) to the national economy. The value of participation of the private sector in agriculture, trade, infrastructure development, and financial services is now well recognised for efficient outcomes. But there is also a need for a suitable public sector regulatory framework to ensure equitable distribution of benefits from efficiency-related gains.

Based on the findings of a comprehensive civil service reform program initiated in 1996, the GoE has been taking measures especially since 2003, to streamline business licensing, import-export regulation, foreign exchange regulation, and others. According to the 2006 Investment Climate Assessment Study conducted by the World Bank, improved conditions prevail in business registration and licensing, customs clearance, telecommunication services and labour regulations.

The private sector has been recognized as a key actor for economic development and poverty reduction in PASDEP 2. The promotion of private sector involvement requires an enabling environment that provides security, and scope for income generation. It also needs a stable macroeconomic climate with adequate commercial laws and financial services, a well-functioning legal system, and adequate infrastructure.

A steady economic growth over the last 10 years coupled with improved infrastructure in roads, communication and power supply have created suitable macroeconomic environment for private sector intervention.

There is a trade proclamation that regulates unfair trading practice and allows genuine competition in the market. There is a Trade Practices Commission with institutional and administrative authority to instil confidence among the business community.

The water sector policy and strategy recognized the importance of the private sector with the public sector role limited to funding and regulation and the private sector taking the lead in implementation of projects and provision of services.

In general the enabling environment is suitable to allow an effective engagement of the private sector in the economic development of the country.

5.2 Demand and Market

The WaSH sector is a strongly publically-driven market. In short, for many years to come, government will be the biggest source of business for the thousands of domestic and foreign private enterprises involved in supplying both the –hardware components and the –software services needed to implement the government’s ambitious WaSH development programs.

The One WaSH National Program Document (2013) stresses the importance of the role of the private sector in implementing the works and services included in the program.

According to the OWP the government is planning to undertake the following activities with an estimated budget of 2.6 Billion USD:

- 55,626 new water points and water supply schemes and rehabilitation of 19,598 in rural areas (excluding hand dug and self supply)

- Drilling of around 60000 wells
- Study and design in over 300 towns
- Construction and supply in over 300 towns

In addition to these activities there will be a demand for private companies in post construction support in 300 towns with a high spillover effect in another hundreds of towns.

The commitment of the government to improve WaSH service levels as part of GTP 2 targets is also expected to open new opportunities for private drillers, contractors, consultants, suppliers and other service providers in solid and liquid waste management.

It is indeed obvious that there will be a very high demand for services of private companies with opportunities for these companies to engage beyond traditional business areas. The attempts to improve contracting arrangements to increase effectiveness and efficiency of project implementation will open new windows of opportunity for private companies.

In parallel there are efforts to create a fair playfield in the market with streamlining the tendering and selection process. The development of the Program Operation Manual (POM) with proposed strengthening of program management units at all level could improve the interaction between private and public sector.

In general there is a recognition of engaging the private sector in the OWNPs with its huge investment of over 2.6 Billion USD. The demand for the private companies will increase substantially that would create an enormous opportunity both the private sector as well as the public.

There are opportunities across the project cycle as illustrated through some examples included in Table 3. One area of current discussion is whether the private sector could be more effective and incentivized when contracted through packaged contracts across elements of a project. This could include packaging feasibility studies and prospecting with drilling of wells to place more of the risk and cost of dry boreholes with the contractor. Other examples are proper use of the retention element of construction contracts to ensure that systems are operable before contractors are fully paid, and finding ways to engage the private sector in the post-construction phase.

Table 3 Some examples of opportunities across the project cycle

| Design | Build | Operate |
|--|---|--|
| Consultancy to develop feasibility studies, plans and designs. | Drilling and digging of wells | Supply chains providing pipes, pumps, sanitary supplies, fittings and spare parts from import to manufacturing, wholesaling, retail and distribution |
| | Civil works including construction of water supply reservoirs, pipelines, distribution networks and wastewater collection and treatment systems etc | Service providers focused on maintenance of water supply systems, operation of public toilets, or latrine emptying etc |
| | | Training and other capacity building support |

6. Private sector bottlenecks

6.1 Macro-economic environment

The Ethiopian economy is one of the fastest growing economies in Africa with an average real GDP growth of 11.3 per cent between 2003-04 and 2009-10. According to the Central Statistical Agency (CSA) National Account Reports, GDP has grown from 75 Billion Birr in 2003/04 to over 510 Billion Birr in 2011/12. According to IMF estimates⁹ (based on national figures) the GDP at current prices reached 995 Billion Birr in 2013/14 fiscal year. According to the same source the GDP per capita (2010 constant prices) had risen 6500 Birr in 2012. Inflation has declined over the last few years and remained in the single digits throughout the year and was 8.5 percent in June 2014. Overall unemployment in urban areas declined to 16.5 percent in 2013 from 20.4 percent in 2009.

According to poverty report 2012 the incidence of poverty declined markedly between 2004/05 and 2010/11. The headcount poverty rate fell from 38.7 % in 2004/05 to 29.6 % in 2010/11. The headcount poverty rate fell in rural areas from 39.3 % in 2004/05 to 30.4 % in 2010/11. Over the same period, poverty in urban areas declined substantially, from 35.1 % in 2004/05 to 25.7 % in 2010/11.

These economic improvements are results of the new economic policy of the government introduced in the early 1990s.

Ethiopia's national policy framework for economic development is set out in the Agricultural Development Led Industrialization (ADLI) which was initially issued in 1993 and broadened in 2005 by adding large-scale commercial farming to its policy scope. In 2009, the industrial policy expanded to include export industries and import-substituting industries. Now, both the ADLI and industrial policy are much better developed in terms of depth, breadth and articulation.

The Ethiopian economic policy framework has opened the door for enhanced participation of the private sector in the economy. The effect of macroeconomic policy on the private sector can be assessed in how it is reflected in government economic planning, the contribution of the private sector to the national GDP, the legal environment and the institutional support framework.

The Plan for Accelerated and Sustainable Development to Eradicate Poverty (PASDEP)¹⁰ sets Government policy and strategic direction. PASDEP 2 recognised the need to enhance the private sector role in the national economy and developed a strategy with three blocks of support mechanisms:

- facilitating institutional support to the private sector through licensing, strengthening the justice system to reinforce private ownership, improving access to finance, promoting privatisation, and improving land administration,
- creating opportunity in foreign markets,
- supporting export oriented companies.

How is this policy and strategic support reflected in the contribution of the private sector to GDP? According to a study¹¹ by Addis Ababa Chamber of Commerce and Sectoral Associations in December 2010, the private sector contributed 84.8% of GDP in 2008-09. However, a major part of this share came from the agriculture sector and, within that, the unorganised/household/ informal sector (hereinafter 'the informal sector'). The breakdown for 2008-09 shows that private corporations accounted for a quarter (25.1%) of GDP, the not-for-profit sector accounted for 0.6% while the

⁹

¹⁰ Plan for Accelerated and Sustainable Development to Eradicate Poverty is the main economic development planning framework from 2000 to 2010

¹¹ A Study on the Determination of the Share of the Private Sector in Ethiopian Gross Domestic Product

informal sector made up the private sector balance with just over 59%, entirely from subsistence-based agriculture.

The formal private sector contribution increased in real terms from 23 Billion Birr in 2004/05 to 80 Billion Birr in 2008/09, showing an average annual growth rate of 39%. Meanwhile, the public sector share of GDP fell from 19.3% in 2004-05 to 15.2% in 2008-09, a decline of 4.1 percentage points over five years. The private sector increased its share from 80.7% in 2004-05 to 84.8% in 2008-09. The private corporation share of GDP increased from 23.5% to 25.1 but the informal sector share also increased from 56.6% to 59.1% (ie. more than half of the economy).

Share of the private sector contribution to the economy by sector shows that utilities (electricity, gas and water supply) accounted for less than 1%¹² while agriculture made up 46%, trade 13%, construction 3.4% and transport 2% (with other smaller contributions and not including the public sector).

The utility sectors including water supply show a significant gap in private sector development compared to trade, construction, agriculture, services (such as hotels and restaurants). The focus of business development support in the Chamber of Commerce targets industry (supported by Danish industry) and agriculture (supported by the Dutch Government).

It appears therefore that while there are favourable macroeconomic interventions and policies for the private sector in general, there are large differences in how the private sector is faring in various sectors of the economy.

6.2 Sector policies and strategies: effect on private sector

6.2.1 Water Resource Management Policy

The overall goal of Ethiopian Water Resources Management Policy (EWRMP) is “to enhance and promote all national efforts towards the efficient, equitable and optimum utilisation of the available Water Resources of Ethiopia for significant socioeconomic development on sustainable basis”. The policy says there is a need to “promote the involvement and meaningful participation of the private sector in the management of water resources”. It also promotes private sector participation in technology development, construction, and operation and maintenance.

The policy states the need to strengthen private sector participation and collaboration with other stakeholders. However, although the private sector is mentioned in a supportive way, there are no specific indications of its role in the WASH sector or any specific guidelines for supporting the private sector in these areas of work.

6.2.2 Ethiopian Water Sector Strategy

The Ethiopian Water Sector Strategy prepared in 2002 by the Ministry of Water Resources acknowledges the right of every Ethiopian to access basic human needs. It advocates for local communities to have the power to make decisions and to take full responsibility for Operation & Maintenance (O&M), including full cost recovery. It recognises the role women play, particularly in water supply. The strategy advocates the use of appropriate technology, recommends the establishment of safety regulations and safety measures and recommends establishing criteria to maximise water allocations. The strategy recommends decentralisation and is thereby supportive of user management, acknowledging users’ rights to mobilise and manage finances and other resources for water supply.

¹²This is the direct private sector role in service provision and does not include the private sector contribution in construction, supply and consultancy.

The strategy supports moves to strengthen private sector involvement saying it will “provide incentives to local stakeholders such as community groups, manufacturers, and consulting firms etc. in terms of concessions in import duties, tax rebates, subsidies, credit facilities and through other similar economic instruments to encourage their participation in the planning, design, implementation and management of WSS systems.” However, with the exception of exempting drilling rigs from import duty, none of the other incentives listed have been implemented.

6.2.3 National Sanitation and Hygiene Strategy

The National Sanitation and Hygiene Strategy was developed to support improved sanitation and hygiene practices, particularly in rural settings. The strategy identifies three key behaviours for 100% adoption of hygiene promotion: toilet use, hand washing and keeping water safe. In 2007, an urban sanitation strategy was drafted, but urban sanitation issues are much complex than rural and the strategy needs a thorough review and further consultation. This is now currently underway. Lack of consensus has caused ambiguity about roles and responsibilities for sanitation among urban WASH agencies.

The urban strategy states: “Creating an enabling environment for public-private sector partnership will be an important intermediate step to consolidating increased coverage. Testing different approaches to find cost effective packages which yield results will be a critical first step in making the best use of limited resources.” However, the national sanitation strategy fails to identify where the private sector can play a role and how this can be strengthened.

6.3 Financial bottlenecks

Businesses involved in the WASH sector face a similar range of problems to counterparts in other sectors including difficulty accessing finance, cash flow, low liquidity and absence of modern financial management.

The major challenge for private companies is to access finance for investment. This is a national challenge¹³ with less than 16% of Ethiopian firms having a bank loan or credit line facility from a bank (against an average value of 22% for Sub-Saharan Africa), and this share collapses to about 3% in the case of small firms. According to the results of the enterprise survey, difficulties in accessing bank loans of adequate size (and sufficiently long tenure) are the single most important problem in relation to accessing finance. Another critical challenge mentioned by respondents is the type (and level) of collateral required by banks as security for loans, with assets other than buildings and vehicles rarely considered acceptable. There are differences between sectors with the Development Bank of Ethiopia providing favourable loans to some selected sectors (see Box).

A business can only grow if there is adequate demand for its services and sufficient capital to expand. Since drilling and construction require high investment costs, it is hard to see a viable private drilling and construction sector emerging without favourable financial support.

Local companies are mostly financed by private banks that often require high interest rates, short-term loan settlements and excessive collateral. For contractors and drillers, the absence of collateral is a major impediment to obtaining short or long-term loans. Lack of access to funds is also a serious problem for companies operating in small towns where financial institutions are mostly absent and the restricted numbers of micro-credit organisations do not address the needs of construction companies. Small companies often have to pay high interest to local moneylenders.

Further insurance declarations are not acceptable as bid guarantees, and in addition the slow bidding process ties up cash that could be used productively.

¹³Access to Finance In Ethiopia: Policy, Regulatory And Administrative Impediments, International Finance Corporation, February 2014

While accessing bank loans is through a very difficult process, obtaining foreign currency is a further obstacle. Due to foreign currency handling regulations and shortages of foreign currency there is usually delayed disbursement or a reduction in value. That in turn leads to complications with suppliers and partners and a competitive disadvantage in comparison to international firms procuring using the Franco valuta system. In addition, companies are required to pay a foreign exchange commission that is 1.5% on the total sum and L/C processing charge, which is 0.5% of the L/C value. The suppliers interviewed expressed difficulties in accessing foreign currency timely and in full amount as the major challenge for importing spare parts and maintaining local stocks.

Taxation¹⁴ is also found to be a challenge for private sector business with around 40% recognizing it as a major constraint in business development. For small businesses, handling tax management issues is more challenging due to their limited capacity and financial management knowledge.

Ethiopia's insurance industry is modest: the market remains small and largely focused on general insurance business with high premiums demanded from businesses. The limitation in its scope of business particularly the absence of micro insurance (MFI started relatively recently) is an impediment for small businesses. The absence of insurance products for artisans and small operators

is also an obstacle for business growth and its widespread presence could make their business more effective.

Credit for water runs dry

The Development Bank of Ethiopia (DBE) was established to support development activities. DBE's main credit products are pre-set for manufacturing, agro-processing and commercial farming. The conditions for such loans are:

- applicant provides 40% of investment with 60% coming from the Bank,
- applicant provides three years' of financial statements.
- interest paid at 8.5% on money disbursed plus 0.5% on remaining balance
- a 1-4 years grace period before repayments begin

With Government support it is theoretically possible to obtain a loan from DBE for other development activities, including the water sector. However, lack of an established mechanism makes it practically impossible to obtain such loans. The sector requires a similar arrangement to other sectors to establish a viable private sector development support. There is an urgent need to enable credit and loans for private sector firms that want to expand provision in this sector.

The most important financial management issue for any business is cash flow. It does not help a business to have a profitable quarter, if the payroll does not have sufficient funds to pay your employees this week. Businesses which book revenue in advance, but do not realise the income for a period of months afterwards, must be especially careful with this timing. Many companies, particularly contractors and consultants in the WASH sector, face cash flow problems due to payment delays. Problems can be overcome by maintaining sufficient lines of credit to keep the cash flow healthy; but many banks are not willing to provide short term credits without collateral. In addition start-up companies frequently run into difficulties due to limited capital, or occurrence of unplanned events such as a contract being cancelled, variations in a contract or a well unexpectedly becoming dry.

Most companies started operating in the water sector without a business plan. They failed to properly research their markets, underestimated competition or overspent wildly and ended up not meeting their revenue goals. New drilling companies often start with high expectations but without a proper demand study, leading to frustration and failure.

¹⁴ World Bank 2006 Ethiopia Survey

6.4 Institutional bottlenecks

The delivery of basic services through a highly decentralised system in a large, heavily populated, and predominantly rural country is not without its challenges. Over recent years, significant progress has been made towards establishing the basic institutional arrangements in the water and sanitation sector to make this possible. This has included the progressive devolution of implementation responsibilities to regional and woreda level; the shift of sector financial management responsibilities from the sectors to the ministry and regional bureaus of finance and economic development; and ongoing efforts to coordinate donor programs under an integrated cross-sector national WASH programme. These reforms all remain under development and therefore, to a large extent, the priority now should not be to engage in new reforms but to embed and strengthen the nascent institutional structures in the sector.

The major institutional challenge remains the absence of a clearly delineated organisation for the provision of urban WASH services. Currently, water utilities, municipalities and health offices share responsibilities. The private sector is involved in collection and transportation of liquid and solid waste from domestic and non-domestic customers. However their role is limited due to the lack of clear policies and strategy in urban sanitation and the absence of a public organisation responsible for urban WASH. There is a need for a delegated management framework for urban sanitation provision at town level to effectively implement the national policies, strategies and development targets. However, as outlined above the current arrangements have not created a suitable environment for a delegated management framework.

Another major institutional bottleneck is the absence of a regulatory agency either at national or regional level. In the absence of an independent regulator, there is an overlap between regulatory and service provision functions in government. While the water policy has clearly highlighted the need for an enabling environment with separation of regulatory and service provision functions to attain water supply and sanitation targets, the policy directions have not yet been supported with appropriate institutional arrangements and the creation of required organizations (i.e. a regulatory agency).

Due to limited capacity at woreda and town level, most contracts are managed at regional level which leads to delay and confusion as the provider effectively has to satisfy two clients, the region and the town or woreda.

6.5 Licensing

As explained above, licensing or registration with Ministry of Water, Irrigation and Energy (MoWIE) is mandatory for consulting firms, contractors and drilling contractors. There are different grades of consultants, contractors and drillers depending on the type and capacity of the machineries (equipment, tools and fleets) and qualifications/experience of the staff. Professional and technical staff also need to be licensed and graded with the MoWIE.

The licensing requirement does not make a distinction between national and international firms except with respect to drilling companies. International drilling firms can only apply for grade 1 while local companies can acquire licenses at all grades.

In the past it was mandatory to own drilling rigs and equipment to achieve licensing of an appropriate grade. In recent years, it has become possible to obtain a licence by showing that there is cash in the bank equivalent to three months rental cost for the specified amount of equipment.

Drilling companies find it difficult to hire licensed drillers since there are no training institutions that provide basic training and can graduate drillers. It is not financially viable for consultancies to maintain a permanent staff with the full range of skills that may be required for limited periods for specific projects. Most consultancies form loose associations to put together these skills (e.g.

economist, sociologist, electromechanical engineer, hydrogeologist) or they hire freelancers. They argue that MoWIE should have the flexibility to register and license such associations and freelance arrangements.

6.6 Capacity and awareness

Capacity gaps have been identified as one of the most pervasive threats to the successful implementation of the One WaSH National Programme. Capacity development of implementing agencies at all levels has been given priority attention by the Programme which will support the development of human resources, organisations and systems and logistics and equipment. However, there are no comprehensive assessments of the capacity of WASH organisations.

The capacity of WASH organisations to identify needs and gaps, to formulate the required service, prepare bid documents, contract administration and monitor private sector services and products are all critical. An evaluation undertaken by DFID found substantial capacity constraints within WASH organisations, despite progress. In particular, town utilities and woreda sector offices have significant capacity gaps in managing contracts.

The major reasons for these constraints are the limited number of skilled professionals and frequent staff turnover, which is in turn related to inadequate incentive packages, lack of qualifications, and poor working environment.

In addition to these capacity constraints, there is limited awareness and experience of using the private sector. Lack of enabling environment for public private partnerships and a historical bias against the private sector are consequently hampering results in the Ethiopia WASH sector.

This is not only a problem for the public sector WASH organisations. Private companies themselves lack capacity to provide quality service and to fulfil contractual commitments. Government sources indicate that most private companies cannot provide any better service than the public sector due to their chronic capacity constraints.

6.7 Bureaucratic constraints

Private sector actors voice serious concerns around issues of excessive bureaucracy and delays in public organisations. The bidding process is overseen by committees that have slow and time consuming decision making processes which often delay the start of projects. Even after a project has started, decisions from contracting bodies are not made in a timely fashion causing delays and higher costs to the public purse and the private company. These delays make it difficult to maintain committed staff, which in turn affects the quality of work.

Failure to assume responsibility for decisions is another managerial constraint that hampers effective service provision. Many project managers feel that a contract is only binding on the private company and neglect their own obligations as client. This leads to frustration and low morale amongst private sector staff and endangers the quality of the output.

6.8 Competition

Lack of fair competition between private companies and public enterprises has been raised as one of the bottlenecks by private companies. The Federal Proclamation on Trade Practice (Proclamation No. 329/2003) (the "Trade Proclamation") prohibits anti-competitive practices, in particular "any oral or written agreement that restricts, limits, impedes or harms free competition in the process of production or distribution" (Article 6/1). The proclamation identifies specific roles that only governmental organisations can undertake but the powers of the proclamation have never been used to prevent the private sector from undertaking construction, supply and design work for a town water

supply. Federal and regional implementing agencies indicate that over 90% of works and studies and over 80% of drilling works were carried out by private companies¹⁵.

6.9 Contractors

According to both clients and contractors, the low quality of study and design often leads to delays and contract conflicts. This stems from low capacity within the private sector itself, which agrees that the following weaknesses need to be addressed:

- Bidding without fully understanding the scope of the work or making a site visit
- Bidding for a very low price to win contracts without properly considering potential challenges leading to low quality and delays.
- Delay and quality problems in supply of materials leading to delays in construction.
- Lack of appropriate machinery, due to high investment costs, leading to inferior quality and delays.
- Most contractors do not deploy enough skilled staff because qualified people prefer design work or require a very high salary; this compromises the quality of work.
- Weak supervision by resident engineers and/or the client leads to work failing to achieve the standards specified in the contract.
- Weak or corrupt supervision can enable contractors to use poor quality materials.
- Arrangements whereby regions manage the contract while the work is done at town level creates confusion and delay in decision-making and hampers the effectiveness of the contractors.
- Contractors divert advance payment to other purposes and then have difficulty in undertaking the work according to the schedule.

Most contractors enter the sector from the building and road sectors and anticipate higher returns. One contractor said that several companies have found the WASH sector and required skills to be more complex than required for the building sector. This and the remote location of sites have discouraged some companies and they have left the sector. The higher ongoing investments in roads and buildings (private and public) made some contractors feel it was better to work in those sectors.

This seems to be reflected in the low proportion of contractors that have renewed their licences with the Ministry of Water, Irrigation and Energy.

6.10 Consultants

The major bottleneck for contractors, suppliers and drillers has been identified as the low quality of studies, design, specification and contract administration services by local consultants. In interviews for this report, clients¹⁶ acknowledged their important role but expressed dissatisfaction with the following problems that affect outputs and services:

- Consultants use senior staff to win tenders but very junior professionals to carry out the work.
- Limited project management capacity in consulting firms.
- Limited cash liquidity of consulting firms leading to shortcuts that compromise quality.
- High staff turnover because consulting companies have limited permanent staff and freelancers refuse to stay until project completion.
- The belief of many consultants that the client does not have the capacity for thorough supervision and monitoring.

¹⁵ These percentages have been estimated by experts as there are no documents with disaggregated data on private and public contributions.

¹⁶ Including the Ministry of Water, Irrigation and Energy PMU and Oromia Region PMU

On the other hand, consultants¹⁷blamed most problems on client failures. They identified them as follows:

- Clients have limited capacity in preparing Request for Proposals and underestimate the required level of input, leading to lower quality output.
- Many clients squeeze the project completion time, compromising on quality and missing items off the bill of quantities.
- Many consultants believe that only the lowest bidder will win tenders which leadsthem to compromise on the service quantity or quality.
- Staff input for supervision is too limited to allow for variation and design changes.
- Licensing requirements limit the ability to hire sub-contractors or freelancers.
- Corrupt and fraudulent practices on the part of some client staff.
- Limited client capacity to review reports, studies and design creates delays.

6.11 Suppliers

Suppliers play a pivotal role in improved WASH services delivery and in implementing the OWNPN. All clients agree that good quality and timely delivery of goods is vital for the success of the sector. However, for a number of reasons, there are few suppliers of goods and materials in the sector. WASH organisations fear that this is leading towardsa monopoly.

Other constraints also hinder the supply of goods and services:

- The perception that the lowest bidder wins pushes suppliers towards low-cost manufacturers resulting in low quality, delay and poor post-delivery service.
- Poor bid documents particularly bills of quantity complicate bid preparation and make it harder to prepare the work: bid documents need to be precise and clearly state the standards for goods to allow suppliers to source the right products and to simplify inspection.
- Complications arising from delivery to towns and woredas for a contract that has been handled by regions or federal organisations often lead to misunderstanding, conflict and delays.

¹⁷ All interviewed consultants expressed similar concerns

7 Private sector in urban sanitation

7.1 Urban sanitation a priority

Urban sanitation is a priority area for intervention and reform. The absence of an urban sanitation strategy, lack of consistent coordination and inadequate budgeting has led to poor sanitation in most urban centres in the country. According to the Joint Monitoring Programme report of 2013, the proportion of households using improved sanitation facilities in urban centres in 2012 was 27%. When shared and unimproved facilities are considered latrine coverage was 92%. The Government latrine coverage figures also stand above 90%.

At an institutional level, mandates for improving urban sanitation are unclear, and this has been a primary factor behind the slow development of an enabling sector environment. The WIF has devised a structure for a city level WASH coordination mechanism but this has not yet been implemented.

7.2 Role of private sector in urban sanitation service delivery

7.2.1 Solid waste management mandate and arrangements

Solid waste management has been provided by both the public and private sector. In most towns of Ethiopia solid waste management is the responsibility of the municipality, each of which in recent years has formed an independent institution (sanitation and beautification agencies).

These agencies are provided with a direct budget from their city administrations to provide solid waste management services and are accountable to their respective city administration. The agencies complain that they do not have sufficient facilities to serve the existing population.

Outside Addis Ababa, most agencies do not have any mechanism to generate income to cover their operation and maintenance costs. Consumers pay a set amount annually for environmental services and the revenue goes to the city administration. It is difficult therefore to determine how much the customers are paying for the solid waste management element.

The solid waste from residential, commercial and industrial premises in small towns is collected by small trailers either pulled by animals or even by hand by the operators themselves while operators in major cities (Addis Ababa and 15 secondary cities) use 5m³ to 8m³ skips with a skip loader truck and a side loader truck for household collections.

In most cases this waste is dumped on open fields or in improperly designed and poorly operated landfill sites on the periphery of the city and often near a river channel.

7.2.2 Private sector role in solid waste management

In most towns with a population greater than 50,000 the primary house-to-house collection is done weekly using manually-pulled wagons to fill solid waste bins which are then emptied by secondary collectors. This service is mostly provided by small and micro enterprises (SMEs) organised by the urban authority. Payment is mostly by volume at around 30 Birr /m³.

In some towns (for example, Sebeta) an attempt has been made to engage the private sector in the secondary collection taking waste from bin stations to the dumping sites. However, due to low demand, competition from municipality and low tariff rates, this has not been successful except in Addis Ababa and a few secondary cities.

Some private entrepreneurs in Dire Dawa and Addis Ababa have developed business plans to provide treatment services through a bio gas plant. But financing has been a challenge; the business plan assumed financing would come from donors.

The major problems observed in solid waste management are the following;

- limited service coverage of primary collection by the private sector
- limited service coverage of secondary collection
- high operational cost of secondary collection
- poor quality of services
- low customer satisfaction
- lack of environmentally sound, effective and efficient system for disposal

7.2.3 Liquid waste management and arrangements

Liquid waste is managed by municipalities, utilities and the private sector (formal and informal). Liquid waste in this context includes human waste (faeces and sludge) and some pre-treated commercial waste. Bigger cities like Addis Ababa and secondary cities have delegated utilities to manage the extraction, transportation and treatment of liquid waste. In smaller towns the utilities are not sufficiently organised to undertake this responsibility in addition to water supply provision. They often use private operators from nearby bigger cities to undertake extraction and transportation services, while municipalities provide dumping sites.

7.2.4 Private sector role in liquid waste management

There are two types of private operator involved in liquid waste management; informal (manual emptiers) and formal (mechanised operators).

a) Manual emptying businesses

According to the Faecal Sludge Management Study¹⁸ (Hywas 2011) hundreds of households use manual emptying services, provided informally by daily labourers from their areas, who attract custom through casual communication.

Households use manual emptiers mainly because their houses or pit latrines are not accessible to vacuum trucks, or where a consolidated mix of soil and sludge creates difficulty for suction or there are no vacuum trucks available. One factor is proximity to a river which makes it possible for emptiers to dump waste (illegally) in the river or cesspits to be leaked into the river. These factors and the lengthy waiting time for a mechanical servicedrive households to opt for the manual operators' services.

Manual operators undertake manual emptying at night (10pm–3am) to avoid disturbing the neighbours with a bad odour nuisance. No protective clothing or devices are used. Major constraints are the following:

- Lack of protection leads to health problems
- The work is not recognised by municipal officials and is done secretly: there is no support from municipal bodies
- Payment is low compared to the dangers and difficulty of the work

b) Private mechanised operators

In cities and large towns, private operators concentrated in Addis Ababa and regional capitals provide liquid waste extraction and transport using vacuum trucks. Most operators operate one truck but a few have up to four trucks. Most of these companies were established by former municipal staff and have a good understanding of the business.

¹⁸ Bill and Melinda Gates financed a faecal sludge management study in Ethiopia in three town of Hosaena, Diredawa and Addis Ababa in 2011. Some of the findings of the study have been used in this section.

With exception of Addis Ababa, in most cities these companies do not face competition from public service providers. In smaller towns the municipalities hire companies from nearby cities but pay higher prices.

Private operators strongly complain about a lack of support from the government and interference by public utility providers by reducing the service fee and competing for the market. Operators say that there are no incentives from the government when they buy second hand trucks, although some said they were allowed to import machinery (trucks and accessories) duty free. In fact, such incentives apply to all operators uniformly.

The major challenges for private mechanised operators are:

Operational

- trucks being overused and exposed to frequent break down
- lack of qualified personnel to maintain pumps
- lack of spare parts for the trucks
- long distances to sludge dumping sites which have limited capacity
- traffic accidents and associated expenses

Financial

- increase in capital investment costs
- increase in operational costs as a result of high inflation or fuel price increases
- lack of access to finance from commercial banks or high interest rates

7.3 Major challenges for private sector in urban sanitation

A key challenge to developing the private sector in solid and liquid waste is a lack of appropriate technological solutions that would make investment in the sector possible¹⁹. Big trucks are not suitable for emptying sludge from pits in terms of volume, price, and technology and often struggle to access the densest low-income urban settlement. There is a need to introduce a new technology that would be better adapted to serving this market segment.

Another major challenge is the difficulty of accessing seed money for start-up activities for small operators. This issue is a serious constraint because small operators lack both adequate internal funding resource (equity) and ability to access external sources. Many small operators do not even try to access loans from conventional banks because of the fear of the rejection of their application or lack of information. When they try the bank collateral requirements, particularly cars and houses, are too stringent. A further issue is that most banks require higher levels of own capital than small operators can provide. There is a better chance of accessing funds from micro-finance lenders but only if these small operators are organized by government agencies.

In addition, the following constraints hamper the development of the private sector:

- inadequate capacity and lack of priority by public utilities for faecal sludge management
- inadequate public awareness of faecal sludge threats and the need for services
- deficiencies in occupational safety and workers health
- lack of policy to support and encourage faecal sludge private operators
- lack of incentives and support for private operators
- difficulty of accessing loans for capital investment
- high cost of fuel and maintenance
- lack of garage and workshop space for private operators
- absence of any private operator associations

¹⁹ Faecal Sludge Management Study in Addis Ababa, Diredawa and Hosaena, 2011

8 Contracting town water supplies

8.1 Current Arrangements

Current arrangements for constructing town water supplies are on the model of “build and transfer” in which the infrastructure facility or system remains the property of the contracting authority.

When an existing utility (or regional bureau as contracting authority) identifies improvements it wishes to make in infrastructure, the first step is to hire a public or private consulting company to undertake a feasibility study and design the water supply system. Tender documents are then prepared.

There are a number of financing options ranging from government budget, water fund loan or an international grant. Once the fund has been secured the contracting authority issues a bid document to hire a contractor. The role of the contractor is to undertake the civil construction works to build the infrastructure and submit it to the utility.

Under the current arrangements there are three ways of contracting the building of facilities:

- Turnkey arrangement (design and build by the same contractor)
- Packaged contracting (design and supervision one contract and construction and supply one contract)
- Individual contracting

The turnkey arrangement has been practised to a limited extent primarily in projects with bilateral financing. This arrangement has the advantage of continuity between the different phases (design and construction) and can be effective in terms of timely completion. However, it requires a high level of capacity from the implementing contractor to effectively undertake design, supply and construction as main contractor.

Packaged contracting has been practised with varying results. In some WASH projects it has been successful and effective, while others have met with limited success. Results depend on the capacities of the contractor and the contracting authority (client).

Over 90% of projects in town water supply are implemented in individual contract arrangement whereby the client hires a consultant, supplier, contractor and electromechanical company separately. The performance of this arrangement has not been encouraging with long delays and substandard construction works.

8.2 Benefits of enhanced private sector participation

Bringing in the private sector can result in many important benefits, especially technical and managerial know-how. Private sector participation (PSP) can result in:

- Transfer of skills to public sector staff
- Shift in culture towards operating under commercial principles
- Increased levels of accountability from staff
- Increased focus on customers
- Improvements and streamlining of processes and procedures
- Overall improvement in operating efficiency

Improved operating efficiency can result in a reduction in technical and non-technical system losses, increase in billing efficiency and collections, and increase in responsiveness to customers.

These contribute to improving the financial performance of the utility by reducing costs, increasing revenue, and improving cash flows thereby lowering the need for customer tariff increases or subsidies. Any increase in surplus cash can be used to invest in the network to improve and expand it.

There are a number of ways to package contracts for the development and management of town water supply facilities. One proven arrangement that has the potential to improve town water supply and sanitation services is the effective use of public private partnerships.

There are a number of options for PSP: the level of benefit generally varies according to the allocation of risks to the private sector. The generic methods which have been used in other countries include divestiture through public offer, and trade and financial sale (where the facilities are owned by the purchaser), concessions including variations around build own operate and transfer schemes, lease schemes, and management and service contracts.

PSP in the form of a concession passes all operational, commercial and investment risks to the private sector. Under a lease arrangement there is partial transfer of risk to the private sector covering operational and commercial risks. Responsibility for investment remains with the state owned entity/government. There is minimal risk transfer in a management or service contracts.

The quantum of benefits usually increases with higher allocation of risk to the private sector so typically the magnitude of benefits increases as the arrangements move from management contract to lease to concession to divestiture.

Additional benefits may be achieved where the private sector injects capital into the sector or business. Under a lease arrangement this injection can cover operating assets and working capital while under a concession it can also cover infrastructure assets. The private sector can be more efficient in its use of such capital, setting its own procurement policy rather than slower public sector procurement requirements.

When the private sector can make use of capital, effectively construct facilities and can provide improved operation; it makes sense to investigate the potential of Build-Operate-Transfer in small town water supply and sanitation services.

8.3 Innovative Contracting

Current contracting arrangements have led to ineffectiveness in project implementation, lower build quality and higher costs. Therefore, it is essential to gradually introduce innovative and more effective contracting arrangements.

The new contracting arrangements should consider the following:

- Reduce the duration of project implementation by organizing and packaging contracts differently
- Introduce improved risk sharing and mitigation arrangements
- Improve build quality of the infrastructure by focusing on company performances (technical) in selection process
- Introduce contracting arrangements that would improve capacity of the utilities and service providers

Accordingly it is critical to introduce new contracting arrangements in a systematic approach by piloting, evaluating and mainstreaming nationally.

Therefore, it is proposed to start introducing the following arrangements:

- Design-build arrangement
- Build-capacity-build-transfer (BCBT) arrangement
- Build-Operate-Transfer (BOT)

In addition it is recommended to assess how to spread risks and incentives between the private and public in a new arrangement and packaging contracts in drier, needy and expensive to serve rural areas like Afar and Somali where larger contracts could attract the international private sector

8.4 Build-operate-transfer (BOT)

An infrastructure project is said to be a BOT (build-operate-transfer) project when the contracting authority selects a concessionaire to finance and construct an infrastructure facility or system, and gives the entity the right to operate it commercially for a certain period, at the end of which the facility transferred to the contracting authority. The build and transfer option is sometimes used to emphasise that the infrastructure facility becomes the property of the contracting authority immediately upon its completion.

There are many possible variations on the BOT model, including build-operate-own (BOO) arrangement, in which the assets remain for a number of years with the private partner, and design-build-operate (DBO) arrangements, in which the public and private sectors share responsibility for capital investments. BOTs may also be used for plants that need extensive overhauls – in arrangements sometimes referred to as ROTs (rehabilitate-operate-transfer).

This study looks at the build-operate-transfer model in which ownership of the assets remains with the public.

8.5 Consideration for BOT in Town Water Supply

8.5.1 Legal Implications

The Ethiopian Water Resources Management Policy of 1999 sets out the overall objective for water supply and sanitation policy “to enhance the well-being and productivity of the Ethiopian people through the provision of adequate, reliable and clean water supply and sanitation services and to foster its tangible contribution to the economy by providing water supply services that meet the livestock, industry and other water user’s demands.”

The policy looks, inter alia, for the development of a framework for the sustainable and effective collaboration amongst all stakeholders including the public sector, donors, communities, NGOs and the private sector to enable their participation within the water supply and sanitation sector. The Water Sector Strategy explains the role of the private sector as being to “promote private/informal sector involvement in consultancy, contracting, supply of spare parts, maintenance and operation as well as management of WSS (especially urban) services”.

The Ethiopian Water Resource Management Proclamation states that all water resources of the country are the common property of the Ethiopian people and the state. The proclamation states that water use is based on the principle of permit.

Water use permits can be obtained from the Ministry of Water Resources. Water use permits can be suspended or terminated in certain circumstances, for example if the Ministry finds that a water resource is temporarily or permanently depleted.

Activities which are prohibited without a permit include:

- constructing waterworks
- supplying water
- transferring water
- releasing or discharging water or wastewater (unless provided for in regulations).

In addition the Ethiopian Water Resources Management Regulations (Council of Ministers Regulations 115/2005) set out procedures for resolution of disputes related to permit-related rights and obligations that might arise between permit holders, or between permit holders and third parties. It appears therefore that breach of a permit may give rise to civil liability, although the nature and extent of that potential liability are unclear.

It is important that private company has a permit for the duration of the project or adequate assurances that it will be able to renew such permits at their expiry, or that they will be adequately compensated.

The Water Regulations stipulate that the "validity of a water works construction permit shall be fixed by the Supervising Body taking into account the useful lifetime of the project". There is no reference to permits for other functions a private company may need to encompass (such as water use and waste water discharge), although the Ethiopian Water Resources Management Proclamation does provide that the duration of permits of all types of permit shall be determined by regulations.

The absence of certainty as to the duration of permits may be an obstacle to PSP. The legal statements allow for build operate and transfer (back to the public sector) but ownership of the assets by the private company is not permitted.

8.5.2 Regulation of the water and wastewater sector

There is no specific water and wastewater sector regulator for the provision of water and wastewater services. There are, however, various public bodies with functions relating to the management and administration of water resources.

Federal Ministry of Water, Irrigation and Energy and Basin Authorities have authority related to water resource regulations (permits, policies etc.). Regional water bureaus have the regulatory authority on water price, environment and water quality.

There is no sector-wide regulator as there is for electricity or telecoms. It is essential therefore to clearly identify which organisation is the sectoral regulator for private sector involvement in town water supplies.

Rights and responsibilities appear to overlap creating a degree of regulatory uncertainty which may deter investors.

8.5.3 Contracting party

A second important issue is determining the contracting authority and the legal body to authorise BOT to the private company. The water policy states that water supply management decisions should be made at town level. Town water utilities have exclusive rights to install and operate water supply and disposal systems within their geographical jurisdiction. However, water use permits can only be provided by federal or regional authorities. Since the water source development is based on the permit principle it is essential to determine roles at both regional and city level.

This study considers the likelihood of conflict between Federal, State and City jurisdiction in this case to be minimal, but the apparent conflict between State and City level jurisdictions may itself be an obstacle to PSP.

If town water boards are empowered to be the contracting party, then the regional proclamation to establish the board has to be revisited to give the water boards powers to enter into contracts, and to insert specific mention of the town water board having the authority to delegate part of its powers and duties to a private sector company by contract.

If the BOT is undertaken by an international company, the whole package will have to be submitted to the regional government and possibly to federal authorities. The Federal Government may guarantee the performance of an obligation provided such guarantee is in accordance with regulations issued by the Council of Ministers.

8.5.4 Price regulation and tariff

Private sector investors will not want tariffs that they negotiate with a Utility to be reviewed by a third party outside their contract, as they will already have assessed the risks and rewards of the project to take account of the tariffs that are to be charged.

However, according to regional proclamations to establish water utilities in almost all regions with exception of SNNPR the regions "determine and amend the rate of charges" of water supply, wastewater, sludge disposal and other related services. It appears that this does indeed provide jurisdiction for the regions to review tariffs payable by consumers and businesses, including contracts under which water is bought in bulk.

This may be an obstacle for options that require the public sector or consumers to pay the private company for the provision of water and wastewater services. In cases where revenue risk is being taken (which appears to apply in all options), there is clearly a potential for actual revenue to deviate from forecast revenue if regulated prices are altered or do not match expectations. Even if the PSP company is operating under an arrangement which does not include revenue risk, an increase in regulated tariffs may make collection of tariffs more difficult and jeopardise the financial stability of the arrangement.

9. Drilling companies

9.1 Drilling business

Ethiopia's drilling sector is characterised by a mix of state, private and civil society players with a recent rapid expansion in private sector activity from home and abroad – in short a very dynamic situation.

The number of private drilling companies has increased from 25 at 2005 to 96²⁰ in 2014 showing an annual growth rate of 32% during this period. The proportion of public drilling companies has significantly decreased during the same period. This is in line with the strategic direction of the sector whereby the role of the government is shifting from service provider towards policy, strategic and regulatory functions.

9.1.1 Private drilling enterprises

Private drilling companies have been playing an important role since the early 1990s as the new economic policy started taking shape in the country. The drilling sector was able to attract foreign companies from all over the world showing that the industry is dynamic and is still on an upward trajectory.

a) Local enterprises

There are at present 79 locally owned drilling companies with 128 drilling rigs between them. The number of local enterprises increased from about 17 in 2005 to about 30 in 2011 and 79 in 2014 showing an annual growth rate of 41%. However, it seems that most local enterprises have weak and limited capacity. According to a study by Karamara (2011) and recent interviews, a large proportion of local enterprises possess one or two old drilling rigs which are characterised by low productivity and high operation and maintenance costs. With few exceptions most of the local enterprises are confined to drilling shallow and medium depth boreholes.

b) Foreign enterprises

There are 17 international drilling companies, primarily from China and India, operating more than 52 rigs in Ethiopia, drilling shallow, medium and deep boreholes. They work across sectors in petroleum or geothermal wells, rural and urban water supply and irrigation projects. Generally most of the foreign companies have higher financial capital, easier access to spare parts and higher efficiency than local enterprises.

9.1.2 Drilling assembly

Attempts have been made to assemble rigs locally in Ethiopia. Drill Make Spa in partnership with Metal and Engineering Corporation (MeTEC) has assembled four rigs and sold them to public organisations. Ato Anteneh Kassa, an agent of Drill Make and managing Director of TENSAE International says there is a phase II plan to produce 25 rigs locally with up to 50% of parts from domestic sources. There are a number of challenges to make this plan a reality including a confirmed order from the public organisation, acquiring foreign currency and access to finance to increase the investment.

9.2 Demand and supply for drilling rigs

Previous studies have indicated a severe imbalance between demand and supply for drilling rigs. However, interviews conducted for this study with the private sector and officials from public WASH

²⁰ The actual number of companies registered by federal ministry of water, irrigation and energy is 96 but it is assumed that some companies registered at region also operate in the country.

organisations suggest that the supply side has improved. Indeed, most private drilling company owners complained that there is severe competition in the market.

8.2.1 Supply of rigs and demand for drilling

To verify the recent statements from the sector actors it is important to see the total available rigs and the demand for rigs in the country. It appears that there are 285 drilling rigs available in the country, most of which are owned by private companies.

Figure 6 Total number of rigs available in Ethiopia by type of institution

| Type of institution | | |
|---------------------|--------------------|------------------|
| 1 | Public enterprises | 92 ²¹ |
| 2 | Private companies | 180 |
| 3 | NGOs | 13 |
| TOTAL | | 285 |

According to OWP around 14,000 wells per annum need to be drilled between to achieve the GTP targets. The total amount of wells needs to be drilled is as follows:

Figure 7 Demand for wells to be drilled in Ethiopia

| Sector | | Number of wells required |
|--------------|---------------|--------------------------|
| 1 | Rural | 43,208 |
| 2 | Institutional | 14,807 |
| 3 | Urban | 2,000 |
| TOTAL | | 60,015 |

The Karamara study also put the required number of wells to achieve the GTP target at around 60,000. According to the same study 294 rigs would be required to achieve this, suggesting a shortfall of 210 rigs at the time of the survey. However, there are currently around 285 rigs and if we assume that 75% are operational then there are 214 functional rigs, making the gap only 80 rigs. Since most drilling operators expressed the view that competition in small and shallow wells is very severe, it appears that the main gap is in heavy duty deep well rigs. Experts from Addis Ababa Water and Sewerage Authority confirmed that for deep wells (over 400 meters deep with a diameter larger than 16 inches) only a couple of Chinese companies and a single local company are in a position to bid. Prices have also increased significantly reaching about Birr 20,000 per meter.

However, in small towns the gap should not be so significant since some public enterprises have the capacities to undertake deep medium diameter wells.

In assessing the supply gap it can be seen that unmet demand for deeper wells will be limited to large urban water supply projects and large irrigation projects. It is important to show that there are good developments in terms of supply and demand for drilling rigs in favour of the supply side and this is expected to lead gradually to stabilising prices.

9.3 Major Challenges in private drilling Industry

The private drilling industry faces many challenges and constraints including the hydrogeology of the country, the enabling environment, technology, finance, business, taxation, low quality of studies, contract administration etc.

²¹ There had been 72 rigs operated by public enterprises in 2011; since then according to MoWIE 20 rigs were procured.

9.3.1 Enabling environment

The water policy and sector strategy have not clearly identified groundwater development as a priority area where private sector actors will get support to shore up the development of groundwater. A lack of training centres for drillers and rig technicians is another area that needs to be addressed to improve the enabling environment.

9.3.2 Rig technology and conditions

Private drilling companies do not generally use specialised drilling rigs, which can be more cost effective in specific geologies because they are not suitable for other types of rock formation. Local contractors lack the finance to buy and maintain a full range of rigs to suit every kind of situation.

Because of the high capital cost of rigs and stringent bank loan conditions on loans to procure rigs, most private companies use second hand rigs. According to Kamara's study only 25% were considered to be in good shape in 2011. This figure is very low compared to the demand. According to the drilling company owners²² and practitioners, rig down time is as high as 40% because of breakdowns, lack of spare parts and poor maintenance. This has led to higher costs and longer idle time. Shortages of drilling inputs such as casings, bentonite and drilling fluids in local stocks is a major challenge. Even when they are available, the quality is inferior or choices are very limited. One company manager who is also a senior hydrogeologist said that his company was forced to communicate with external rig suppliers repeatedly because of the absence of spare parts and qualified technicians in the country.

9.3.3 Hydrogeology

According to a report²³ groundwater/aquifer systems of Ethiopia are mainly discontinuous and isolated with different types of aquifer systems existing in the different river basins or regional states of the country. Practitioners indicate that within one aquifer it is possible to encounter different types of rock formation at different levels and this is one of the most challenging issues when drilling wells.

Representatives of the drilling companies said that the thicknesses of hard, medium or soft rock formations indicated in contract agreements bear little relation to the actual situation when they start drilling and this is one of the main causes of dispute between the contractor and the client. This has great effect on costs; the cost of drilling can be easily be doubled or reduced by a large amount according to the type of ground. As a result, contractors tend to estimate costs for hard rock (the worst case scenario) which can be expensive for the client.

The physical properties of aquifer materials such as grain size, fracture intensity, and weathering intensity, are not accurately determined during investigation. This also affects the costs of a borehole since the proper determination of these parameters leads to decisions of casing and screen slot opening and size, and the packing materials required before drilling starts.

9.3.4 Skill and capacity of drilling companies

In recent years a number of new drilling companies have been established by investors who were lured by high returns but whose knowledge of the drilling industry is limited²⁴.

Most drilling contractors are unable to achieve their contractual target depth, due to the inexperience of the drillers, the poor condition of drilling machines or lack of flexibility by supervisors. The high mobility of drillers looking for higher wages has also exacerbated the problem. It is difficult to hire drillers through normal processes and many whose contact is limited in the sector have suffered from this challenge.

²²Company owners and practitioners interviewed gave similar figures on the average to be around 40%.

²³Getachew Hailemichael, 2004. Study on groundwater and requirements for drilling and other systems tapping groundwater in Ethiopia, (UNICEF, Ethiopia).

²⁴A shareholder of a private rig company who did not want to be named explained that his main business is hotels and he came into contact with a sector insider who promised him high returns and joined a company. But he faced a number of difficulties including losses.

9.3.5 Business environment

Businesses with high capital, high skills and complicated supply chains are associated with high risks which lead companies to set high profit margins, leading to high sector expenditure. Drilling is indeed a business that can be financially risky to manage because of the unknown nature of the hydrogeology, the distance to the drilling sites and the low quality of studies.

Drillers find that procurement specifications are rigid and do not reflect reality on the ground leading to contractual conflicts. Bureaucratic and slow bid evaluations delay the process and put company managers in a difficult situation about whether to mobilise for other assignments while waiting for a decision. Problems in management of contracts (delayed decisions, performance bonds, inferior contract management) also affect the business environment.

9.3.6 Competition

During the 1990s there was limited competition in the drilling industry but all the private companies interviewed as part of this study agreed that over the past three years it has become more competitive.

The two major factors mentioned as a reason for increasing competition are the increase in the number of drilling companies and the limited investment in the sector. The establishment of foreign owned companies is viewed as an additional source of increasing competition.

There are concerns by local companies that foreign-owned drilling contractors have unfair advantages in the market because of the high capital of the companies, financial liquidity and the fact that they are multi-sector businesses. They also have easier access to replacement materials such as casing and other drilling inputs through the parent company internationally.

9.3.7 Packaging of contracts

Most tender packages for drilling works are announced with lots that contain very few wells and sites that are far apart. This method of tendering raises the cost. Given the long time it takes between tendering and award of contract, and the distance from site to site, contractors tend to increase the contract prices to cover costs incurred during idle time. If tenders were prepared in packages of 10-20 wells in geographically clustered areas, contractors could offer much reduced costs, because they would have more sustained period of work and reduce the time and costs of mobilisation.

9.3.8 Weak supervision

Providers and clients agree that weak supervision is a major challenge. Drilling companies indicate that engineers and hydrogeologists assigned to supervise construction and drilling works often have limited experience in the sector. As a result they do not make decisions in the field but pass them back to senior staff or supervisors, leading to delay and unnecessary additional costs for the companies. On the other hand, clients²⁵ allege that due to lack of close and strict supervision, contractors use sub-standard quality materials and sometimes do not even use the required quantity of materials such as casings, gravel etc.

9.3.9 Financing and taxation

Due to the high capital cost of establishing a private drilling company, including the purchase of machinery, accessories, tools, equipment, and constructing a maintenance workshop, warehouse and office building, it is very rare for a company to finance the entire investment from its own resources. The sector requires additional financing from banks. Given the obvious importance of water resources development in Ethiopia both for drinking and agriculture, there is a need for the government to pay more attention to the financial needs of the sector. The Development Bank of Ethiopia is a state

²⁵ An example is Oromia Water Bureau's Project Implementation Office

owned bank established primarily to finance strategic development investments in the Country, but its financing is limited only to manufacturing and export oriented investments such as floriculture²⁶.

The Bank treats investment in water well drilling like any other construction business and does not finance such companies. Consequently, drilling contractors depend on private banks that set unfavourable terms for collateral, loan period and interest rates. Private banks usually offer shorter loan periods of up to five years and finance only 50% of necessary investment. This causes particular difficulties for start-up businesses which do not have collateral assets to offer as security. Entrepreneurs often have to find people with financial resources who are not necessarily aware of the industry and related risks.

There are few tax incentives for investment. Drilling rigs themselves are tax exempted. However, there are three types of taxes applied to spare parts, drilling materials and other inputs: customs duty (10% CIF), VAT (15% percent CIF) and withholding tax (2% percent CIF). The last two are reimbursable.

There is critical shortage of foreign currency. As a result drilling equipment can only be imported by opening a letter of credit, arrangements for which are often very complicated. Import on Franco Valuta basis (credit from suppliers or others), is not possible. In addition to the cost of purchasing drilling machine(s), accessories, spares and other equipment, there are various charges that pose considerable financial constraints to private companies including bank charges while opening letters of credit.

9.3.10 Licensing

There are two sides to licensing constraints: the regulator attempts to enforce the guidelines while companies feel unjustly treated because of the high requirements. As a result it is difficult for private companies to obtain licensed staff and this leads many companies to use “tricks” or not to renew their licences. It is obvious that licensing is a major constraint and challenge for the drilling businesses.

²⁶ Information from an expert in Loan Department in DBE in Addis Ababa

10. Conclusion and recommendations

10.1 Conclusions

The private sector is expected to play an important role in achieving the GoE targets to improve access to safe water, sanitation and hygiene for all citizens. There is a commitment to this in policy papers but it is not currently sufficiently implemented in practice.

The underlying motivation is to increase the national capacity for implementation, which may not be met by the public sector alone. Increasing the private sector role in implementation could free the public sector to play its primary role more effectively – setting policies and strategies for the sector and regulating and licensing those whose task it is to achieve them.

A more efficient better organised private sector could increase competition and reduce the cost of vital activities such as drilling and solid and liquid waste management. Currently there is a danger that only a few companies have the capacity to undertake the largest scale contracts, which may lead towards a near monopoly in some areas of work and put the public sector clients at a disadvantage.

There is a need to increase the national capacity of Ethiopian drilling companies so that they can compete on a level playing field with some of the more efficient international companies. There is also a need to develop the private sector in the regions, as capacity at present is heavily skewed towards Addis Ababa. This increases costs for more remote areas.

Finally, the recommendations and policies also need to address the small scale informal sector, often one-person enterprises that in practice make up a large part of the private sector contribution. This needs to become more formal so that it meets public sector regulations and does not put its own health at risk.

Such steps will complete a long journey for the Ethiopian economy and sector over the past 25 years.

Ethiopia's economy was predominantly a centralised command economy with agriculture as the main contributor to GDP. The development of industrialisation and mechanised farming in the 1960s and 1970s came to premature end in 1975 when the military junta came to power and introduced a command economy which brought all sectors of the economy under the state ownership.

The EPRDF-led government in 1991 introduced a new transitional economic policy which fully recognised the role of private sector. Since the early 1990s the private sector role has increased steadily contributing more than 75% of GDP in 2010.

While the private sector in general is growing quite significantly the development of the private sector in the water and sanitation sector is not so impressive.

In the 1980s the private sector was almost non-existent in the sector. In the early 1990s the water sector started to formulate new policies and strategies in evolving programme documents. In 1999, the water resource management policy was adopted which recognised the role of the private sector and other stakeholders.

The private sector in WASH mainly provides consultancy, supply of goods and equipment, construction work, drilling, liquid and solid waste collection and transportation, maintenance and financial services.

The level of the private sector involvement differs from one area to the other with a dominant 100% share of supply of equipment and major parts, followed by construction, consultancy and drilling. Public sector bodies have shifted accordingly from being service providers towards becoming policy, regulatory, funding and monitoring bodies.

While these developments have been very encouraging, the private sector is challenged by constraints and bottlenecks that hamper its effectiveness. These include policy weaknesses, absence of strategic clarity, and lack of support from government. They also have weaknesses in technology, capacity, finance, and contract administration. The background environment suffers from ineffective supply chain, difficult hydrogeology and generally complex schemes, poor studies and weak supervision.

Considering the importance of the private sector for the development of WASH sector and as a key stakeholder it is essential that these bottlenecks should be gradually addressed through a number of measures.

The following general and sector specific recommendations are proposed to increase the effectiveness of the private sector in WASH. While most of the recommendations are proposed for all sector partners to act together within the framework of OWNPs, some specific actions have been proposed to be implemented by UNICEF and DFID.

10.2 Recommendations

10.2.1 General recommendations

The following is a summary of recommendations arising from the study on how the private sector can contribute to achieving the WASH targets indicated in the GTP and improve WASH services in Ethiopia. These recommendations are addressed to the sector as a whole: some require action by government, others require existing policy to be better implemented while others require action by the private sector. Public private partnership implies working together to meet a common goal; it cannot be achieved by finger pointing and blame.

Although this list will take time to address, there are three priority areas for improving the performance, capacity and scale of private sector contribution. Improvements in these areas will transform the prospects for the private sector contribution to meeting GoE sector goals:

- **Finance:** making it possible for companies to invest in equipment that will make the work more efficient, and to improve their own capacity.
- **Reducing bureaucratic obstacles:** in particular slow decision making in awarding contracts, and in taking decisions to overcome problems that arise during the work.
- **Improving the performance and capacity of the private sector itself.** Some private sector bottlenecks are self-inflicted, such as underbidding to win contracts which cannot then be delivered to the right quality and time frame, and a failure to survey and specify for contracts which leads to delay and extra cost.

a) Policy and strategy

The policy gaps indicated in the previous sections indicate that there are some areas still requiring policy responses to improve effectiveness of the private sector. The policy will lay out general directions while the water resource management regulation should describe support mechanisms in depth with specific quantitative indicators.

- The policy should clearly indicate that the private sector is a key partner of the sector and it should clearly identify the expected role of the private sector in some depth.
- The policy should identify support mechanisms that will be delivered to the private sector such as such as tax incentives, access to finance and customs privileges.

- The sector strategy document should clearly identify areas of public private partnerships in WASH service provision with specific detailed strategies as how this can be implemented. The strategy document should elaborate the scope, areas, and mode of collaboration for public private partnerships.

b) Access to finance

- The government in collaboration with development partners could allocate a special sector financing window, through Development Bank of Ethiopia, so that favourable financing can be made available for private drilling companies, contractors and manufacturers involved in WASH sector.
- The sector should allow for flexibility in some tendering regulations such as requirements for bank guarantees to be flexible to allow for insurance guarantees for advance payments.
- Suppliers and contractors should be supported to access foreign currency to acquire drilling rigs, trucks and other essential equipment.
- Exempting the sector from VAT should be considered so that cost of well drilling and construction could be reduced especially for small holder farmers who would like to sink their own wells for drinking and irrigation purposes. This would also encourage the growth of a private market, including manual drilling, which is currently very limited.

c) Enabling environment for micro and small Enterprises

- There is a need to create an enabling environment for Micro and Small Enterprises (MSE) development in WASH delivery. Since the publication of the water policy the government has developed a number of policy measures to promote MSEs, e.g. growth through incubation, perhaps led by Micro and Small Enterprise Development Agencies MSEDAs, with the intention of creating a more sustainable MSEs to play a role important role in the provision of WASH services.
- MSEs need to be organised in areas of high demand, such as waste collection, to create a supply chain (forward and backward market linkages) and to assist the integration of new players into the sub-sector.

d) Capacity Building for the Private Sector

- The OWINP has identified areas of capacity development and technical assistance to implement the Programme; however these all target the public sector. Since it is already agreed that the private sector should play a substantial role in implementing the programme it is essential to include capacity building for the private sector. The programme could be amended to include a comprehensive capacity building element for the private sector involved in WASH.
- Capacity building support will only be viable if it is financed. The government and partners should reach a consensus to establish a dedicated capacity building fund within OWINP with a budget item clearly identified for private sector capacity building.
- Capacity building support should include training, provision of tools and machinery for small service providers and start-up companies, and access to information from the sector databases.

e) Share experience and collaboration between private and public sector

- All WASH agencies need to improve their capacity for information sharing, policy promotion and facilitation with private sector.
- A permanent and effective dialogue forum should be established between the public and private sector at federal, regional, town and woreda level – this requires action on both sides.
- Relevant sector documents such as OWINP guidelines, inventory results, stakeholder forum reports and other relevant documentation should be shared with the private sector with effective dissemination.

f) Improve business climate

- Creating a partnership relationship between the public sector (as client) and the private sector (as service provider) will improve mutual understanding, and will increase efforts to provide better service and increasing moral of employees of private companies.

- To encourage the development of a small-scale private sector, artisan associations could be tax exempt up to a certain threshold and support should be made available in other ways, such as through training.
- The bidding evaluation process should become more transparent with more information for bidding companies. The perception of private companies that the lowest bid always wins leads to weak proposals and under-bidding. Even when the bidding is based on technical and financial evaluation most companies feel the need to under-bid and this leads to weak performance later.
- Streamline the process for evaluating tenders by reducing the bureaucracy in terms of numbers of people required to take decisions, and the number of processes with the aim of creating genuine accountability and ensuring that both parties are working towards the same goal.
- Introduce training programmes for priority areas (such as drilling) in TVET centres to generate skilled personnel for the private sector.

g) Licensing

- Existing criteria for issuing new licences or renewing existing licences should be reviewed to increase the availability of trained professionals. Requirements for numbers and qualifications/experience of experts for consultancies should be adjusted to allow for freelance arrangements and associations.

h) Contracting

- Introduce build capacity build transfer (BCBT) arrangements for town and design and build to rural WASH
- Spread risks and incentivise the private sector to help improve performance by making better use of contract retentions to ensure proper completion and functioning of systems
- Introduce innovations in borehole drilling with contracted drillers potentially taking on risks as part of packaged contracting with exploration studies
- Packaging contracts in drier, needy and expensive to serve rural areas like Afar and Somali where larger contracts could attract the international private sector

i) Recommendations for the private sector

- The private sector needs to be responsive to the demands from clients to ensure an effective service. There should be a commitment on the part of the private sector to employ a competent and committed workforce.
- The private sector should organise and form associations to be accepted as genuine partners with Government and reduce the fragmentation of its members.
- The associations should establish ethical codes of conduct and standards to be followed by all its members.
- The private sector should make a long-term commitment to the sector. Many in the private sector did not see the value in making long-term developmental investments in their workforce and function with short term contracts while they neglect training and professional development. Since this is related to the wider issue of developing a more dynamic, professional and institutionalised set of businesses in the private sector, the issue should be tackled from the perspective of business development.
- The benefits of adopting business strategies centred around younger (and less costly) employees who require training and development but will provide, in the long-term, enhanced productivity, needs to be demonstrated and supported, particularly looking internationally where such employment practices are widely adopted by leading companies.
- The private sector should maintain continual dialogue with the government by organising forums and other suitable mechanisms at all levels of the government structure.

10.2.2 Drilling

Critical challenges related to finance, licensing and policy and regulatory issues are covered in the general recommendations. This section makes recommendations to meet some specific challenges within the drilling industry.

a) Support for private drilling companies

- The Government could organise bulk procurement of drilling machinery and accessories by sourcing affordable technology that can be made available at a reasonable price.
- The formation of professional groups in the sector to form drilling companies, provide training and equip with the necessary equipment needs to be encouraged. Support for new private investors to establish strong drilling companies can be strengthened by improving the enabling environment.

b) Encourage rig manufacturing and adaptation to local condition

- The Government should proactively facilitate investments in rig assembling or manufacturing through financial, tax and customs instruments.
- Public organisations that procure rigs could give priority to local manufacturers.
- Universities and technical institutions should be encouraged and supported to conduct research works to develop and adapt technologies that suit the local condition.
- MeTEC or other potential metal engineering companies should be engaged to manufacture spare parts and tools for drilling equipment. The uses of local components will eliminate the need to import spare parts, thus minimising down time and costs.

c) Introduce suitable procurement arrangements

- Package drilling contracts to a reasonable amount of boreholes that make them attractive to contractors and contribute to lower unit prices.
- Cluster borehole development works within a Woreda to reduce mobilisation and demobilisation costs and to allow contractors spend most of the time on the actual drilling operation.

d) Improve contract management

- Develop national standards to be applied to bidding and contract documents for drilling.
- Hydrogeologists and drilling professionals need to be recruited and trained in sufficient numbers at regional and zonal level. Client site supervisors should be empowered to promptly decide on changes on the ground.
- Hydrogeologists and drilling professionals require periodic practical on-the-job training to strengthen their capacities.
- It is recommended that dialogue among the hydrogeologists and drilling professionals is encouraged through periodic workshops to review their performance and discuss success and failure case histories.
- The time taken to complete tender evaluation and award needs to be reduced.

e) Improve studies and design and specification

- Improve groundwater study and well design and specify potential geological problems and constraints.
- Develop specifications that are particular to the site and contain accurate and required information.

f) Enhance efficiency of drilling

- Establish training institutions for drillers and hydrogeologists that can train relevant private, public and NGO personnel.
- Introduce performance standards for drilling staff and evaluate staff achievement and reward them accordingly.
- Propose incentive mechanism schemes and apply them to drilling staff to increase productivity of labour.
- Introduce shift systems and increase working hours to increase the productivity of the rig and reduce unit costs.
- Introduce new drilling methods that allow more efficient use of the rigs. Since drilling is a new industry in Ethiopia there is a lot that drilling contractors can learn from more experienced countries like India and China.

g) Support the training of drillers and drilling technologists

- Introduction of courses in TVETs to train and graduate skilled drillers.
- Collaborate with universities to introduce a BSc under-graduate programme on drilling technology.
- Enhance on-the-job training for drilling engineers, senior drillers and assistant drillers related to their academic grades entrance examination scores.

10.2.3 Solid and liquid waste management in small towns

The critical intervention required to improve the role of the private sector in solid and liquid waste collection and management is to support the introduction of appropriate and affordable technologies that can be used in small towns.

In order to broaden the private sector role in solid and liquid waste management the following policy, institutional, technological, financial and capacity measures should also be taken.

a) Legal and institutional

- Establish a clearly delineated institutional framework with clear mandates at town level based on the WIF.
- Clearly demarcate the area of operation and limit the scope of public services to create clarity about where to involve the private sector. The collection and transportation of waste may be provided by private companies, while the role of public utilities may be limited to regulation, licensing, oversight and provision of service to urban poor.
- Recognise informal service providers like manual operators and set clear identified levels of service and a code of conduct.
- Enact regulations that ensure the provision of occupational safety and the health of workers involved in liquid and solid waste management.

b) Technical

- For smaller towns with less than 50,000 population, support steps to develop, test and pilot improved pit emptying technologies, such as tractor-mounted trailers.
- For towns between 50,000 and 100,000 organise zones to open the possibility of supporting a private company with a conventional vacuum truck to operate in up to five towns from a geographically suitable base.
- Develop a service delivery model for inaccessible houses through a combination of light technologies and light trucks for transportation.
- Pilot low-tech, low-cost treatment and agricultural re-use facilities.
- Standardise the purchase of feasible and sustainable types and sizes of trucks and major accessories.
- Introduce high performance vacuum trucks for a dry pit latrine emptying service as the existing dumper trucks are not suitable to take all the sludge from the pit.

c) Operational

- Provide support to fleet management to increase efficiency and reduce operating costs.
- Provide support for maintenance workshops for pumps and to develop a supply chain of spares to reduce down time and idle time of vacuum trucks
- Conduct research to develop safe and healthy manual liquid waste extraction and transportation methods.

d) Business and finance

- Recognise the private sector as a strategic partner in dealing with waste management.
- Develop low-cost primary service delivery through micro- and small enterprises; including through town clustering for efficient use of vacuum truck services.
- Support the development of a viable financing model for pro-poor service delivery.
- Conduct research and provide private and public companies with innovative collection and transport technologies that would reduce fuel costs.

- Organise private sector actors in waste management to form business associations.

e) Capacity building

- Build the capacity of operators in fleet management and operating new technologies
- Promote extraction pump maintenance training.
- Train MSE in business and financial management.
- Conduct research on sludge characteristics and suitable technologies for emptying and treatment.

10.2.4 Build-Operate-Transfer (BOT) in Towns

There are two issues that need to be addressed in order to make BOT reality in the provision of water supply services in towns.

- Policy and legal changes
- Implementation approach

a) Policy and Legal Changes

The water resource management policy and the water sector strategy explicitly state how to decentralise the management and operation of water supply services from national to municipal level. However, in neither document is the role of the private sector clearly identified; nor is its role as an operator of facilities. The policy and strategy should be reviewed to include a private sector role in operation and management of water supply services. Without a clear inclusion of the possibility of a private sector operator of the water supply facilities, it would be difficult to introduce BOT arrangements for a town water supply.

The second issue is how to regulate a private operator. Currently local oversight comes from water boards that regulate the operation of water services in towns with regional higher level supervision. However, there is a clear gap because regions are also implementing projects and provide support and are not established as regulatory body, while town water boards act more as a board of management than as a regulator. Therefore, the sector should establish a water and waste water regulator at federal and/or regional level to regulate private sector operators.

The third issue is how to reform the regulatory and licensing process to cover private operators in water supply provision? The Water Resource Management Regulation states that water administration is based on permits. Water administration and operation can be outsourced to a private company in a permit system and granting the permit is clearly delineated as a MoWIE responsibility. However, the current licensing and regulation guideline do not cover managing and operation of water supply services in towns. The licensing and permit guidelines need to be reviewed to include the outsourcing of water supply operations in towns.

The legal framework for BOT implementation needs be understood better within the sector, including commercial law, trade proclamation, currency regulations (if international companies are included) and other relevant proclamations.

b) Implementation approach and plan

A good strategy can only work effectively if its implementation is clearly designed and planned. Therefore, developing an effective implementation strategy and plan are very critical for the success of BOT.

- The first step is to determine the chronological order of the BOT implementation. Can the sector move to implement BOT before the policy and legal changes are undertaken? It seems that there are a number of steps that need to be undertaken before commencing with implementation of BOT. The following are the key steps to be followed:

- Developing BOT implementation strategy
- Create awareness among relevant stakeholders and reach consensus on key issues of BOT
- Implement gradually by starting with less complex modes of PSP like service contract and management contract
- Identify key lessons and challenges and amend the strategy accordingly
- Commence with less complex BOT arrangements where the private sector does not cover the investment and the public assumes financial risk. This means that the public covers the capital costs and contracts the private company to design, construct and operate for less than five years.
- Commence with regions that have capacity to manage complex contracts and build the capacity of all regions, and gradually implement in all feasible towns.
- Identify the contracting authority; clearly delineate the responsibilities of federal, regional and town level authorities in contracting, regulating, monitoring and directing the BOT process.
- Develop a pilot town project to demonstrate the feasibility of BOT and capture relevant lessons before moving at large scale.
- Identify feasible and suitable candidate towns; ascertain that there is consensus among all stakeholders at all level before selecting and commencing with BOT.
- When moving to higher level of BOT it is essential to develop an appropriate pricing strategy to attract viable private sector partners.
- Ensure that all required guidelines and manuals are available at town level and adequate capacity is in place to have capable local oversight at town level.
- Carry out experience sharing with countries and utilities where BOT has been successfully implemented.
- Include the BOT in the OOWNP or Phase II programme to ensure that it is accepted by all stakeholders including donors.

10.3 Action Plans for the OOWNP

The OOWNP can support the implementation of these recommendations by collaborating with MoWIE and other WASH partners. Critical areas where the program can provide support are the following:

- Support the National WaSH Coordination Office (NWCO)²⁷ in building its capacity to coordinate and effectively implement agreed action plans.
- Provide financial support to NWCO to undertake policy revision undertakings and other related activities.
- Draw lessons from new UNICEF experience on the BCBT contracting arrangement and gradually introduce other forms of contracting arrangements like BOT.
- In hydro-geologically difficult areas and regions (Afar and Somali) package contracts in lots to be implemented in collaboration between federal and regional and look to attract more international drillers
- OOWNP should pilot one town to introduce BOT after addressing the regulatory and institutional challenges and monitor and capture the lessons and share to wider sector partners.
- Draw lessons from on-going innovation and experimentation with appropriate urban sanitation technology and service delivery arrangements including by UNICEF for condominium sewerage.
- Finance the introduction of appropriate solid and liquid waste collection and transportation technologies in at least one of the towns and monitor and capture the lessons and share to the wider sector partners.
- Support a study to establish a “special fund” to support start up private companies in drilling and solid and liquid waste management.
- Support the inclusion of the different strategies and actions in the OOWNP.

²⁷ In section 10 it is proposed to assign NWCO the task of coordinating the overall effort of improving the private sector in WASH

- Support a pilot capacity building fund for private sector actors, for example in fleet management of trucks or drilling technicians, to be replicated sector wide

11. Implementation and monitoring

11.1 Implementation plan

The success of any plan is dependent not only on how well it is designed but also on how well it is implemented. In order to implement the plan successfully, the following issues should be given priority.

The most critical factor for an effective implementation of any strategy, plan and action is assigning a unit responsible for the overall coordination, follow up and implementation of the proposed actions. Accordingly, the National WASH Coordination Office (NWCO) should be assigned with a clear terms of reference and guidance to undertake this task.

- Provide NWCO with required staff, budget, authority and guidance to undertake this task.
- Develop a detailed action plan with a time framework for the implementation of proposed actions.
- Include proposed actions in revisions of the One Wash National Program and assign budget with potential sources of funding.
- Organise a launch of the private sector development program with participation of development partners, NGOs and regions and reach consensus on critical strategies and agree on priority actions on an annual basis.
- Increase the commitment of the management of all sector partners to implement the plan and to address the challenges.
- Establish effective communication between the public sector and the private partners.
- Staff all positions with competent people and ensure upgrading of existing employees through training.
- Involve all stakeholders primarily the implementing agencies at regional level in the process.

11.2 Monitoring progress

Monitoring plays an essential role in implementing successful plans. A properly designed monitoring system provides stakeholders with a way to assess implementation of the plan and make adaptations as needed. Monitoring should focus on the following:

- Progress of agreed actions
- Number of new private consultants, drilling companies, contractors and solid and service providers in liquid and solid waste management
- Availability of equipment, rigs, trucks and other essential tools in the sector
- Changes in performance of private companies in providing service delivery
- Time taken to complete tendering processes
- Proportion of companies renewing their licenses annually
- Available capital by private companies
- Program implementation rate (number of facilities built, rehabilitated, etc.)

Once the sector partners agreed on monitoring parameters, annual monitoring and evaluation of the implementation of agreed action plans and outcomes should be included within the overall framework of sector monitoring.

Annex 1: Questionnaires for private sector bottleneck analysis

Questionnaire for WASH Organisations

Name of Organization _____

Name of Person Interviewed _____

Email _____

1. The role of the organization towards WASH development.

2. What are major constraints in WASH implementation:

3. The policy of the organization towards Private Sector in WASH

4. What is the role of the organization with regard to private sector?

5. In what areas do private sector involve in WASH?

6. What are the experiences in deploying private sector in WASH/

7. What are the main challenges for limited private sector involvement in WASH?

8. Any programs envisaged to enhance private sector role in WASH

9. Procurement procedures to be adopted by the donor program regarding public private

10. What mechanisms exist for dialogue between the private sector and the organisation?

11. Capacity-building actions of particular relevance to the private sector involved in WASH;

12. Initiatives to improve effectiveness of private sector in WASH.

13. What kind of role the private sector should play in WASH?

14. How can other main stakeholders contribute to strengthening private sector in WASH? (Donors, NGO, Regulators, ...)

15. Any suggestions to enhance private sector involvement in WASH:

Questionnaire for Government Organisations

Name of Organisation _____

Name of Person Interviewed _____

Email _____

1. The policy of the organisation towards WASH development.

2. What are major constraints in WASH implementation:

3. The policy of the organisation towards Private Sector in WASH

4. What are the main challenges for limited private sector involvement in WASH?

5. Any programs envisaged to enhance private sector role in WASH

6. Procurement procedures to be adopted by the donor program regarding public private

7. capacity-building actions of particular relevance to the private sector involved in WASH;

8. Initiatives to improve effectiveness of private sector in WASH.

9. Any suggestions to enhance private sector involvement in WASH:

Questionnaire for Donors

Name of Organisation _____

Name of Person Interviewed _____

Email _____

1. The policy of the organisation towards WASH development.

2. What are major constraints in WASH implementation:

3. The policy of the organisation towards Private Sector in WASH

4. What are the main challenges for limited private sector involvement in WASH?

5. Any programs envisaged to enhance private sector role in WASH

6. Procurement procedures to be adopted by the donor program regarding public private

7. capacity-building actions of particular relevance to the private sector involved in WASH;

8. Initiatives to improve effectiveness of private sector in WASH.

9. Any suggestions to enhance private sector involvement in WASH:

Questionnaire for Private Companies

Name of Company _____

Name of Person Interviewed _____

Position _____

Email _____

I Profile of Company

1. The business of the company

2. The type of the company

3. Date of its establishment

4. Registered capital of the company

II Business of the Company

1. Who are the clients of the company?

2. How is the bidding process?

3. How long does it take between bidding and commencement of work?

4. How is the competition within the WASH sector?

5. What kind of problems and constraints do you face in acquiring work?

6. How do you value the business viability of WASH sector and your company?

7. How is the relationship with other private companies?

8. How do you communicate with Clients and potential Clients?

9. What kind of promotional/marketing works do you undertake?

III Operation of the Company

1. How much drilling/equipment capacity per annum?

2. Where does your company operate?

3. How do you enter in to contract? What are the components of a contract and how does it affect the work?

4. How do you find the studies provided by the Client and how does it affect your work?

5. How is supervision of work conducted and how does it affect your work?

6. How do you procure the equipments and spar parts for the machines?

7. How do you maintain the equipment? On site and in workshops?

8. How do you recruit and maintain staff?

IV Financial Issues

1. What are the major costs?

2. Are unit costs per meter known? If yes, how much for the different types of works?

3. How do you maintain your financial expenses?

4. How much is your business affected by taxation? For what kind of taxes is your company subject?

V. Problems

1. Business Problems

2. Technical Problems

3. Logistics/Supply/Maintenance

4. Management Problems

5. Legal/contractual problems

6. Infrastructure problems

7. Other Problems

VI. Resources of the Company (To be filled separately)

1. Equipments Number Type of Equipments Capacity of Equipments

2. Vehicles Number of Vehicles Type of vehicles Other logistic support

3. Personnel

Operational staff (Engineer, Hydrogeologist, Driller, Technicians etc)

Type and Number

Qualifications

Management and Support Staff (Administrator, Accountant, Driver, etc)

Type and Number

Qualifications

4. Store

Number of Stores

Size of stores

5. Workshop

Type of Workshops

Available machinery

VII. Works accomplished by the Company (To be filled separately)

1. Works accomplished

Total number of boreholes

Type of bore holes

Geographical distribution of the works

Accomplishment of works (% of dry wells)

2. Clients Profile (List your previous clients)

Federal Government

Regional Government

Local Government

NGOs

International Financiers

Private Companies

Others

Annex 2: List of Private Drilling Companies

| No | Company Name | Ownership | Region | Rigs |
|----|--|-----------|-------------|------|
| 1 | A.T.F Water Works Construction PLC | | A/A | 1 |
| 2 | Al-Bade Gen. Constr.& water works | | Somali | 1 |
| 3 | Adequate Water Works Construction PLC | | Benishangul | 1 |
| 4 | Adosh WW Drilling | | DD | 2 |
| 5 | AFX Oasis Water Resource and Hydropower Engineering Con. | China | AA | 2 |
| 6 | Ahmed Mahammed Ahmed | | A/A | |
| 7 | Al-Bade Gen.Constr.& water works | | Somali | 1 |
| 8 | Al-Mahdi Drilling Company | | Somali | 1 |
| 9 | Al-Nile Business Group | Indian | AA | 8 |
| 10 | Anbu Geo Technique | | AA | |
| 11 | Aqua Bore Holes | Indian | A/A | 2 |
| 12 | AquatechAbyisinnica | | AA | 2 |
| 13 | Arcon | | AA | |
| 14 | Atlas | Turkish | AA | 2 |
| 15 | AsfawossenGugesa | | Tigray | 1 |
| 16 | Aurora Engineering PLC | | A/A | 1 |
| 17 | Axis Engineering | | AA | 2 |
| 18 | Aurora Engineering PLC | | AA | 1 |
| 19 | Avon | | AA | |
| 20 | AYNHAKKORE BUSINSS P.L.C | | A.A | |
| 21 | Bede Drilling | | A.A | 1 |
| 22 | Bps Water Drilling & Exploration P.L.C. | | A.A | |
| 23 | Brotherhood Water well Drilling Construction P.L.C. | Indian | A.A | 2 |
| 24 | CGC OVERSEAS Construction | China | A.A | 8 |
| 25 | Classic Consulting P.L.C. | | A.A | |
| 26 | Collar Engineering P.L.C. | | A.A | 2 |
| 27 | Damla Water Drilling P.L.C. | | A.A | 2 |
| 28 | DANIEL WELDAY WELDEABZGI | | A/A | 2 |
| 29 | Delta Drilling (Eastern Region) | | AA | 2 |
| 30 | Drops Engineering | | AA | |
| 31 | Earth Work Geotech P.L.C. | | AA | 1 |
| 32 | East African Drillers PLC | | A/A | 2 |

| | | | | |
|----|--|--------|--------|---|
| 33 | EGC Energy Plc | | AA | |
| 34 | Estiphanos General Machinery Service PLC | | Tigray | |
| 35 | Ethio Drilling Water & Engineering | | AA | 3 |
| 36 | Ezana Mining Development | | Tigray | 2 |
| 37 | Feiyueda Building Materials P.L.C. | | AA | |
| 38 | FundacionAyudare (Ethiopian Branch) | | AA | |
| 39 | Gereni Water Drilling & Construction | | AA | |
| 40 | Glacier Business P.L.C | | AA | 3 |
| 41 | Gills drilling & ex.PLC | | AA | |
| 42 | Gondwana Engineering P.L.C | | AA | 1 |
| 43 | HadusheHailu W/Aregay | | Tigray | 1 |
| 44 | HailuAmbaye | | AA | 1 |
| 45 | Hard rock Drilling | | AA | 2 |
| 46 | Hilin Private Limited Company | | A/A | 1 |
| 47 | HYDRA General Electro Mechanical PLC | | Tigray | |
| 48 | Hydro Constru.&Engin. Drilling | | A/A | 3 |
| 49 | IBHARU Water Well Dril. PLC | | A/A | 2 |
| 50 | IssakRirashDerar | | DD | 1 |
| 51 | Janjc General Trading P.L.C. | | AA | 2 |
| 52 | Jerrymaraki Engineering P.L.C. | | AA | |
| 53 | Jiangxi Coal field Geological general investigation co ltd | China | AA | 4 |
| 54 | KibreabDebesayTsfay | | Tigray | |
| 55 | Kidmer Engineering PLC | | AA | |
| 56 | KLR Ethio | Indian | AA | 4 |
| 57 | KSR Infrastructure | Indian | AA | 3 |
| 58 | Layne International LLC. (Ethiopian Branch) | | Tigray | |
| 59 | MahederMehariMesfin | | A.A | 2 |
| 60 | MekonnenMatiyosButare | | AA | 1 |
| 61 | MelakuAsfawDegefu | | South | 1 |
| 62 | Modern Corporation For Drilling Water Wells | Yemen | Tigray | |
| 63 | Mohammed Oudda | | Afar | |
| 64 | MuluGebiruHagos | | Tigray | |
| 65 | MulugetaBerhane | | Tigray | 1 |

| | | | | |
|----|---|--------|-------------|------------|
| 66 | Myungsung International Devt. PLC | Korea | A/A | 1 |
| 67 | NandeShwara water well Drilling PLC | | A/A | 3 |
| 68 | New Dimension Water Well Drilling PLC | | A/A | 1 |
| 69 | Nile Drilling & Exploration PLC | Indian | A/A | 4 |
| 70 | Onset Engineering construction P.L.C. | | AA | |
| 71 | PANGEA Drillers PLC | Indian | Tigray | 3 |
| 72 | Qantas Water well Drilling Research P.L.C. | | Tigray | |
| 73 | Pile Foundation & Water Well Dril. PLC | | A/A | 5 |
| 74 | Rabah& sons PLC | | Tigray | 1 |
| 75 | Ray Mineral Exploration & Services P.L.C | Indian | A/A | 2 |
| 76 | Rizu Drilling Exploration Services Supply | | Tigray | |
| 77 | Royal Borehole Drillers | Indian | AA | 2 |
| 78 | Saba Engineering PLC | | A/A | 4 |
| 79 | TAYLOR WATERWELL DRILLING SOLUTION P.L.C | | A.A | 1 |
| 80 | Sinar Waterdevelopment7 TradingP.L.C | Indian | A/A | 1 |
| 81 | Shan Dong Geo-Mineral Engineering | China | A/A | 4 |
| 82 | ShimelesMekonen | | A/A | 1 |
| 83 | Sumayan Engineering PLC | | A/A | 1 |
| 84 | Takele kenea | | A/A | |
| 85 | TAM Geo-Engineering PLC | | AA | 4 |
| 86 | Tamrin International Trading P.L.C. | | A/A | 1 |
| 87 | Tanna Water Well Drilling PLC | | A/A | 5 |
| 88 | Tekeze Deep Water Well Dril. PLC | | Tigray | 1 |
| 89 | TeklebrehanAmbaye Construction | | AA | |
| 90 | United Rahwa Industrial Eng. PLC | | Tigray | 1 |
| 91 | Vigo Water Drilling PLC | | AA | |
| 92 | Waheen Drilling Company | | Somali | 3 |
| 93 | Watech PLC | | AA | 2 |
| 94 | Water International Inc. Ethiopian Branch | | Oromia | 1 |
| 95 | YemusieBetir water works Constr. | | Benishangul | 1 |
| 96 | Zekalay General Trading | | Tigray | 3 |
| | Total | | | 144 |

About...

This report presents an overall analysis of the current Ethiopian private sector landscape in water and sanitation, with case study chapters specifically addressing urban sanitation, contracting of town water supplies and water well drilling.

Key areas identified for improvement include supporting companies to access finance, reducing bureaucracy and improving the performance and capacity of the private sector itself.