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Value for Money and Sustainability in WASH Programmes

Assessing the VFM of DFID's contribution to the Water Supply and Sanitation Programme (WSSP) in Ethiopia

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Preface / Acknowledgement

This will be updated included in the final version of the document.

The case study team included Marie-Alix Prat from Trémolet Consulting, Ian Ross from Oxford Policy Management and Dr Seifu Kebede from Addis Ababa University. The team benefitted from the support and facilitation of Martha Solomon, the WASH Advisor at DFID Ethiopia.

In Addis Ababa, meetings were held with the DFID country office, the MOWIE Programme Management Unit (PMU), the MoH PMU, the Central Statistical Agency of Ethiopia (CSA) and the main development partners active in the WASH sector. During a visit to Amhara region, meetings were held with the WSSP PMU at the WASH and health regional bureaus, with the operator of a small town water supply scheme in the small town of Marawi and with the Woreda WASH Teams in two woredas (Fagita Lekoma and Dangla). Community visits were carried out together in Fagita with the Regional PMU and woreda WASH teams.

Comments on an initial draft were received from Tesfaye Bekalu and Wendwosen Feleke (World Bank) and Gulilat Birhane (WSP) – we are grateful for their contributions, which have influenced this revised draft. The present version of the report is still in draft, so further comments are welcome, This report format will be finalised in the coming months, and a shorter, laid out version will be published on DFID and VFM-WASH websites.

This assessment is being carried out by Oxford Policy Management in association with the London School of Hygiene and Tropical Medicine, Oxfam, Trémolet Consulting, and the University of Leeds. For further information contact Ian Ross at ian.ross@opml.co.uk.

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Executive Summary

[This will be included in the final version of the document]

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List of Abbreviations

BOFED	Bureau of Finance and Economic Development
CSA	Central Statistical Agency
CWA	Consolidated WASH Account
EFY	Ethiopian Financial Year
ETB	Ethiopian Birr
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
HEW	Health Extension Worker
HMIS	Health Management Information System
ICRR	Implementation Completion and Results Report
IDA	International Development Association (World Bank)
MOFED	Ministry of Finance and Economic Development
MOWIE	Ministry of Water, Irrigation and Energy
NWI	National WASH Inventory
O&M	Operation and Maintenance
OWNP	One WASH National Programme
PAD	Project Appraisal Document
PBS	Protection of Basic Services
PCR	Project Completion Report
PMU	Programme Management Unit
RPS	Rural Pipe Scheme
RWB	Regional Water Bureau
RWS	Rural Water Supply
SNNPR	Southern Nations, Nationalities and People's Region
SWAP	Sector-Wide Approach to Planning
TSG	Town Support Group
UAP	Universal Access Plan
UWS	Urban Water Supply
VFM	Value for Money
VIP	Ventilated Improved Pit
WASHCO	WASH committee
WIF	WASH Implementation Framework
WSG	Woreda Support Group
WSSP	Water Supply and Sanitation Programme
WWT	Woreda WASH Team

GBP 1 = USD 1.64912 (2014)[1]
GBP 1 = ETB 31.9329 (2014)

Annual exchanges rates were used where appropriate – the period average over 2008-13 was GBP 1 = ETB 24.15458

[1] Source: oanda.com

1 Introduction

1.1 Case study objectives

This case study has been developed in the context of a 2-year research programme entitled "Value for Money and Sustainability in water, sanitation and hygiene programmes" (VFM-WASH) funded by DFID. Under this programme, research activities are being carried out in six countries where DFID has made significant investments in the WASH sector, including in Bangladesh, Ethiopia, Mozambique, Nigeria, Pakistan and Zambia.

The objective of the present case study is to assess the Value for Money (VFM) and sustainability of DFID's recent investments in the WASH sector in Ethiopia. Specifically, the present analysis assesses DFID's funding channelled via the WSSP (Water Supply and Sanitation Programme) from 2008 to 2013. The WSSP is a multi-annual multi-donor programme established in 2008, and was a continuation of previous funding from the World Bank between 2004 and 2008.

1.2 DFID's involvement in Ethiopia

In recent years, DFID has been funding the following four major WASH-related programmes:

- Water Supply and Sanitation Programme (WSSP) - support to this national programme over 2008-2013 through the Government of Ethiopia (GoE) at a total cost of GPB 66 million. This programme is now completed.

- Water, Sanitation and Hygiene Sector Capacity Building Project – additional support to the WSSP to build planning, implementation and monitoring capacity of key programme partners at various levels. The objective was to improve efficiency and effectiveness in the WASH sector – UNICEF implemented this GBP 3.6 million programme between 2009 and 2013, and it is now completed.

- One WASH National Programme (OWNP) – funding for One WASH or OWNP, the GoE's flagship sector programme, over 2013-2018. Some GPB 106 million of financing is being channelled through GoE and UNICEF. OWNP recently started, and is currently in its preparatory phase, thereby providing continuity after WSSP. It aims to set up a Sector-wide Approach to Planning (SWAP) in the sector.

- Protection of Basic Services (PBS) programme – this programme ensures continued access and improvement of decentralised basic services in the education, health, water and sanitation, agriculture and rural roads sectors. DFID has provided support to the programme since 2006 (GPB 240 million for PBS 1 and GBP 270 million for PBS 2), and is currently providing GBP 510 million over 5 years (2013-2017).

- Peace and Development Programme - grant to a consortium of NGOs led by Save the Children UK over 2012-2016. The programme aims to improve access to basic services, rule of law and livelihoods for the population in the Somali region of Ethiopia, and DFID is providing GBP 38 million.

An important objective of this study is to provide DFID with insights into the VFM of the WSSP so as to extract lessons for the ongoing design and implementation of OWNP. DFID is one of the largest donors in the sector – the OWNP programme document (p.89) suggest that DFID is to be the single biggest external funder of OWNP donor in the sector, providing about 20% of overall finance.

1.3 Programme under review: a brief overview

WSSP is a GoE-led programme to increase access to water and sanitation and promote the adoption of hygienic practices in Ethiopia. The table below summarises the main characteristics of the programme.

Table 1. WSSP programme characteristics:

Key Programme characteristics	
Sector of intervention	Water, sanitation, Hygiene, Cross cutting sector support (Sector MIS, preparation of One WASH sector wide approach)
What is the funding for?	Financial support to government programme
Programme geographical scale	National, with a selection of woredas in each region (the IDA/DFID overall project aimed to reach 4.2m beneficiaries, which is about 6% of the rural population in 2008.
Programme area	Urban and rural
Programming context	Mostly Developmental
Type of programme support	Combination of Hardware, software, loans and capacity building.
Type of Programme implementers	Regional and woreda (districts) WASH teams

The programme started in 2004 with USD 116 million funding from the World Bank.[2] In 2008, the GoE revised its Universal Access Plan for water supply and sanitation (UAP) which aimed at improving access to clean water and sanitation to nearly 100 % by 2012-13. The WSSP became the government's operational instrument to implement the plan.

In 2008, DFID decided to contribute GBP 66 million between 2008 and 2013 to support the implementation of the WSSP through its trust fund arrangement with the World Bank. In 2010, IDA also provided an additional credit of USD 80 million to fill financing gaps that had occurred after the first phase of the programme.[3]

The study focuses on the 2nd phase of the WSSP (2008-2013), during the period in which DFID was providing funding. Care is needed to ensure correct reading of years in this report – some data sources refer to 2004–2013 (the IDA-only period) and others to 2008 – 2013 (the IDA/DFID period). This is clarified where appropriate in the report.[4]

[2] We have converted Ethiopian Financial Years (EFY) to European years to ease comprehension in this report. All reports from GoE used the Ethiopian calendar. An EFY starts on July 8th and ends on July 7th. In EFY the programme run from EFY 1997 to EFY 2006, with the 2nd phase starting in EFY 2011(2008).
[3] This was due to an increase in per capita costs, higher than expected population in towns, and the diversion of USD13 million from the project to a food crisis program in 2008.
[4] While the programme's real name is WSSP, it is referred to as "IDA / DFID" by some and "WASH one" by others – this should not be confused with "One WASH" which is the OWNP.

The WSSP ended in October 2013, although remaining funds are still being disbursed to the regions. In September 2013, the Government of Ethiopia launched the OWNP as a follow-up to WSSP. It aims to harmonize the GoE's and development partners' inputs to the WASH sector in terms of programming and financial support.

The OWNP is organised in two phases. Phase-I (2013-2015) aimed to achieve the Universal Access Plan (UAP) by 2015 and prepare for the next phase. Phase-II (2015-2020) will be the implementation phase. DFID has committed GPB 106 million from 2014 to 2018 to the OWNP. This includes GBP 80 million channelled through a basket fund called the Consolidated WASH Account (CWA), GBP 22 million for UNICEF (outside the CWA) and GBP 4 million to contracts for evaluation consultancies. Up to 2014, DFID and the World Bank were the main contributors to the OWNP[5].

1.4 Case study methodology

The present analysis follows a standard methodology proposed in the VFM-WASH Inception Report for the overall research programme, which was submitted to DFID in November 2013. The methodology contained in the Inception Report sets out how VFM can be assessed along the WASH results value chain, from inputs to outputs, outcomes and impacts.

The methodology encourages the use of comparator programmes, i.e. other WASH programmes in the same country, on which VFM analysis can also be undertaken, allowing conclusions to be drawn. During the country visit, CO-WASH (a bilateral programme funded by Finland) were approached, and have begun to provide their data to act as comparator programmes. This is now being followed up, and we are also talking to other sector stakeholders as well.

No major departure from the proposed outline for the case study has been deemed necessary at this stage. As anticipated in the Inception Report, however, limited data availability has been a significant problem. While all case studies under the VFM-WASH project[6] suffered from data challenges, the Ethiopia case study encountered particularly serious problems which have impeded VFM analysis. This is partly related to the fact that the programme is financed through a trust fund and therefore relies on national reporting systems which have an outlook that is primarily fiduciary. It has therefore been close to impossible to link inputs to outputs, due to the formats of financial reporting, and the low level of output data disaggregation. Nevertheless, it has been possible to calculate some of the VFM indicators.

In particular the following limitations have been encountered:

- The qualitative analysis of the programme is mainly based on interviews with national stakeholders who have a global vision of programme implementation throughout the country, existing reports on the national programme and a visit made in Amhara to the small towns of Merawi and Dangela and Fageta lekuma woredas. These visits are not representative of other situations encountered in other regions and this is the reason why more comprehensive studies and evaluations are referred to (mainly the

[5] The World Bank originally started disbursing funds outside of the CWA due to procurement concerns, although they have now reached an agreement with GoE to channel future funding through the CWA.
[6] Other case study countries were Bangladesh, Mozambique, Nigeria, Pakistan and Zambia

MOWIE's draft final Implementation Completion and Results Report (ICRR) and Helle Stolz, Getachew Abdi and Yemarshet Yemane (2013) "Evaluation of WASH Capacity Building Interventions in Ethiopia" report)

- **Input and output data for the programme are not tracked in a consolidated and disaggregated manner,** which means that it has been necessary to manually piece together the information. For example, output data are collected at the woreda level and passed up the management chain to zones and regions, but at national level the data is consolidated and no longer possible to disaggregate. This means that, at the national level, government staff only has access to aggregate cumulative figures, and were unable to provide us with output data by region by year. This highlights the fact that WSSP programme managers lack management tools to track how monetary inputs translate into outputs, outcomes and impacts. This will also be the case for OWNP unless the management information system is radically improved.

- **Data on expenditure is only reported by type of expenditure** (on works, goods, consultancy services, salaries etc.). It was only possible to allocate expenditure data to WASH sub-sectors by making assumptions (urban water, rural water, rural sanitation and indirect programme support). It was not possible to allocate the data to more precise outputs such as piped schemes or hand-dug wells for rural water supply. Thus the quantitative VFM analysis could not be undertaken at regional level. To be able to demonstrate the potential of a VFM analysis, more detailed expenditure and contract data was collected during a field visit to the Amhara region.

- For the moment, **the VFM analysis only includes expenditure specifically on the programme** (whether direct costs or indirect programme support)**.** Data on other government expenditure contributing to programme delivery (particularly staff costs) were not readily available. Overall indirect programme support is therefore underestimated. Estimations of additional government expenditure and on household spending could be added in at a later stage, in further discussions with programme stakeholders.

- **Key output data is missing and not disaggregated when available.** For example, for rural sanitation there is no data intermediary outputs related to household sanitation. While some activities were clearly undertaken, there is no data on household behaviour, open-defecation free communities, or the number of household latrines constructed. This appears to be a deficiency in the M&E framework rather than data collection itself, with the Health Management Information System (HMIS) at the Ministry of Health relied on to deliver things it could not. Overall, the M&E framework focuses more on monitoring institutional sanitation, especially numbers of VIP latrines in schools and health centres. This means that it is not possible to provide VFM indicators for household sanitation, and this should be addressed in the monitoring and evaluation framework for the OWNP.

- **No outcome data was collected for WSSP**. There was no baseline or endline survey conducted as part of the programme. Therefore, for outcome data we must rely on nationally representative household sample surveys. These surveys are generally only designed for national level representativeness, with no statistically significant figures provided for the regional level or below. Therefore, outcome data cannot be directly linked to output data. This means that effectiveness indicators

cannot be estimated. For the OWNP, the National WASH Inventory (NWI) data goes some way towards acting as a baseline, but there must be regular updates to this to ensure its continued usefulness.

- In terms of evaluating DFID's specific contribution, given that the programme under review is a common Trust Fund with the WB, it was not possible to attribute DFID's contribution to specific investments (although DFID's documentation makes assumptions about the percentage of results which can be attributed to DFID's funding).

1.5 Case study structure

The present case study is organised as follows:

- **Section 2** provides key elements of context for the case study, including on the country and WASH sector background;
- **Section 3** provides an overview of DFID's programme. In the case of Ethiopia, this section focuses on presenting the WSSP (to which DFID is a key contributor);
- **Section 4** presents the main data that we were able to obtain, compile, or reconstruct (based on key assumptions) on the main components of the VFM value chain;
- **Section 5** sets out the values for the main VFM indicators;
- **Section 6** formulates conclusions recommendations in terms of improving data for programme management and on programme design to support VFM and sustainability.

In addition:

- Annex A sets out potential comparators for the analysis, i.e. programmes that are similar in nature to WSSP but which use different implementation arrangements.
- Annex B provides additional elements of country context.
- Annex C provides detailed output data for rural water supply
- Annex D includes diagrams showing the stepped approach
- Annex E provides a specific case study of rural water in the Amhara region

2 Country context

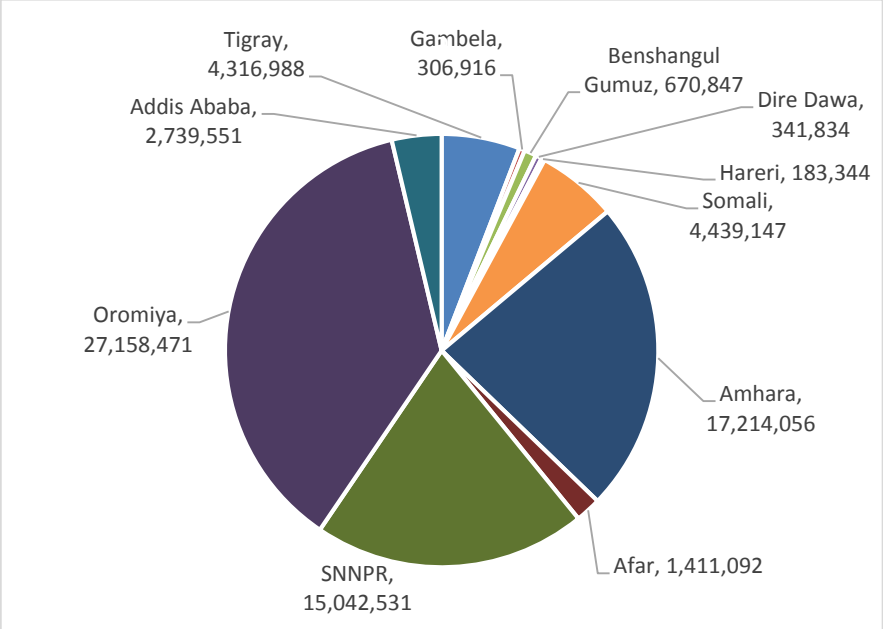
This section provides key contextual elements that can help interpret the results of the VFM analysis, including population characteristics, hydro-geological factors, poverty data and data on access to water and sanitation. Ethiopia is a federal republic divided into regional states, which are in turn divided into zones, woredas and kebeles. For readers with little knowledge of Ethiopia's administrative divisions, an overview is given in Annex B.

2.1 General characteristics

2.1.1 Population characteristics

According to the most recent census Ethiopia had a population of about 74 million in 2007, and projections suggest it may be about 95 million today. The national population growth rate is estimated at 2.6%. Figure 1 presents the population estimates for each region. In 2013, approximately 70% of the population lived in rural areas.

Figure 1. Population of Ethiopia by region (2007)



Source: UAP – CSA projections for 2014 based on 2007 census

2.1.2 Geographical characteristics

A more detailed description of Ethiopia's topography and hydrogeology is provided in Annex B. Here, it is mainly emphasised that Ethiopia has a rugged terrain, with elevation ranging from 120m below sea level to 4,560m above sea level. This has led to pronounced spatial variation in water resources, but overall Ethiopia has ample opportunity to access raw water supplies. The challenge of groundwater occurrence is spatially extremely variable and surface water flows are very seasonal. The river flows are contained in 12 river basins of which 9 basins are internationally shared.

In most of northern and western Ethiopia the hydrological year is characterized by a wet season (75% of total rainfall) between June and September and a dry season between October and May. In Eastern and Southern Ethiopia the main rainy season is equally distributed between March to April and October to December. River flows correspondingly decline during the dry season, and many smaller rivers dry up completely. Given the variability in flow and the difficulty in treating surface waters, groundwater remains the main source of potable water for approximately 85% of the population.

2.1.3 Economic and poverty characteristics

Ethiopia has made a notable recovery since the end of the Derg era (1974–1991) and proclamation of the Federal Democratic Republic in 1991. The economy has experienced strong and broad based growth over the past decade, averaging 10.9% per year between 2004/05 and 2012/13 compared to the regional average of 5.3%.. The proportion of people living below poverty line has declined from 46% in 1995 to 30% in 2012. The table below presents the country's main socio economic indicators for 2008-2012, during which time GDP nearly doubled. Yet in spite of fast growth in recent years, GDP per capita is one of the lowest in the world, and the economy faces a number of serious structural problems. Agricultural productivity remains low, and frequent droughts still beset the country

Table 2 - Ethiopia economic indicators

	2008	2009	2010	2011	2012
GDP growth (annual %)	10.79	8.80	12.55	11.18	8.73
GDP (current Million US$)	25,587	28,170	26,289	29,921	41,718
GDP per capita (current US$)	309.69	332.05	301.84	334.72	454.80
GNI per capita, PPP (current US $)	880	940	1040	1150	1240
Life expectancy at birth (years)	59.66	60.60	61.47	62.25	62.97
Population (Million)	82.621	84.838	87.095	89.393	91.729

Source: World Bank

Agriculture was the largest component of GDP and employer in the country until 2011, when services started to take over. In 2011/2012, agriculture represented 44% of GDP and services 45.6%.This is the results of the government pushing to diversify the economy into manufacturing, textiles, and energy generation. The government is the main investor in large-scale infrastructure development, such as railway construction, power generation, and education, and some doubt that high growth can be sustained without increased private sector participation in the economy. Investment in social and economic infrastructure has expanded access to basic public services.

2.1.4 Access to water and sanitation

Household surveys provide the most reliable data on how people are using different water and sanitation services. Ethiopia's Central Statistics Agency (CSA) oversees household surveys conducted in the country. Data from nationally representative surveys are collated and analysed by the WHO/UNICEF Joint Monitoring Programme (JMP). Figure 2 and Figure 3 below show this data for water and sanitation separately, with estimates for 1990 and 2012.

They show that Ethiopia is making strong progress towards the MDGs for both water and sanitation. The rapid reduction in open defecation from a very high level is of particular note. The section on programme outcomes, further below, provides more analysis of the household survey data in Ethiopia.

Figure 2. Estimation of drinking water coverage trends (JMP 2014)

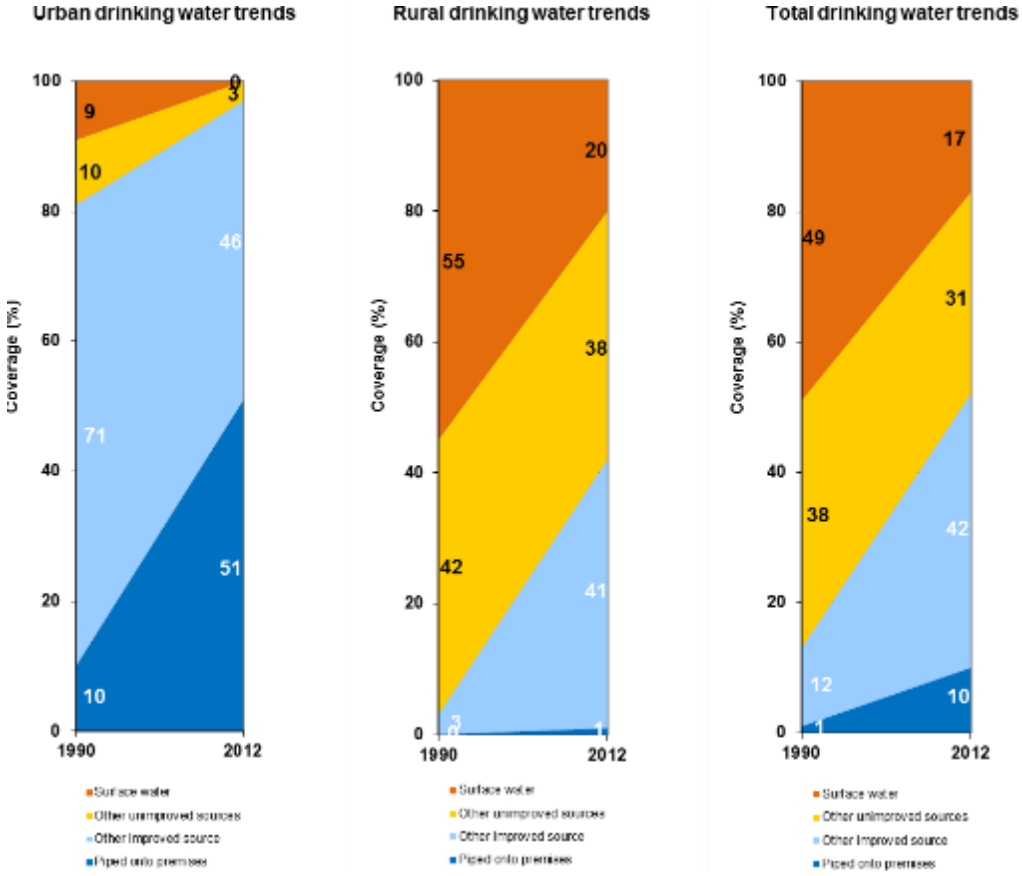
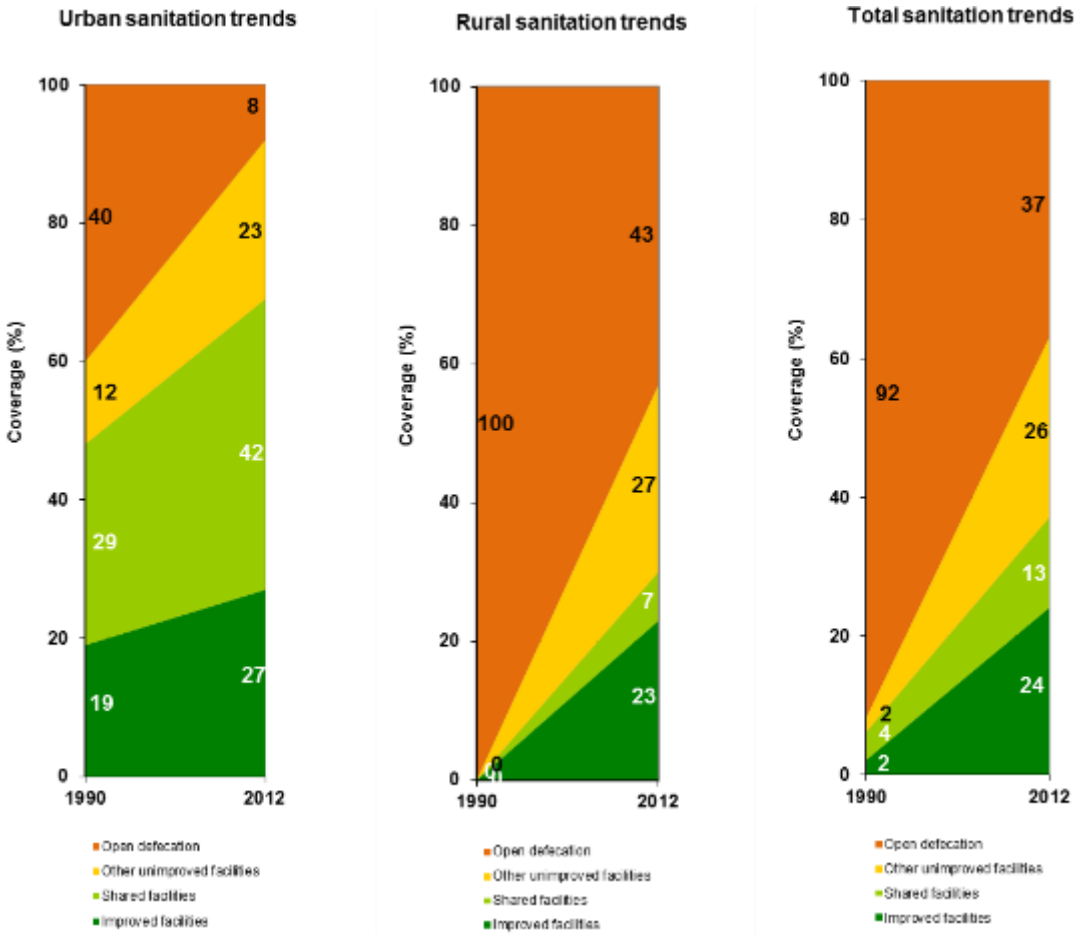
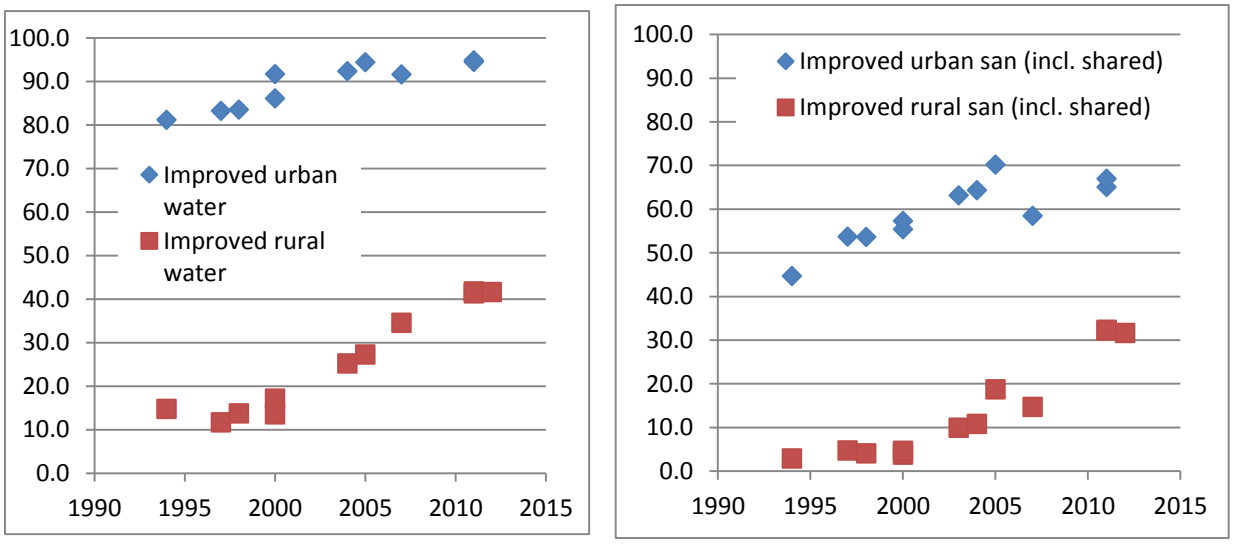


Figure 3. Estimation of sanitation coverage trends (JMP 2014)



To consider more recent trends, it is necessasry to look at indiviudal household survey data, as shown in Figure 4 below. With regard to the full WSSP period (2004 – 2012), it can be seen that outcomes in rural areas for both water and sanitation have continued to increase. However, the trend is more flat in urban areas, for both water and sanitation, perhaps reflecting the difficulty of keeping up with rapid urbanisation.

Figure 4 – Percentage of national population using improved WASH services from selected household surveys



Source: JMP country file for Ethiopia – data points include various iterations of the Welfare Monitoring Survey (WMS), Demographic and Health Survey (DHS), and the Census, collated by the JMP and harmonised using a single definition of improved/unimproved

2.2 Water and sanitation sector overview

Ethiopia's WASH sector has implemented several policy and institutional reforms over the last decades that have increased its capacity to deliver urban and rural WASH services. The succession of strategies, plans and frameworks contributes to a policy and institutional environment that is far stronger more coordinated than it was 10 years ago.

2.2.1 Legal and policy framework

The Government of Ethiopia endorsed the **Water Resources Management Policy** in 1999. It outlines the country's views regarding the water sector, including water supply and sanitation services, and is the basis for the formulation of strategies and plans for the development of the sector.

The **National Water Sector Strategy** (WSS) was adopted in 2005 by the Ministry of Water, Irrigation and Energy (MOWIE), with assistance from UNDP. The strategy is an elaboration of the Water Resources Management Policy and aims to provide concrete direction and implementation strategies for development of the entire water sector, i.e. covering the hydropower, irrigation and water supply sub-sectors.

The **Universal Access Plan** (UAP) for Water Supply and Sanitation Services for 2006-2012 was also launched in 2005, with a specific focus on WASH as indicated by the title It includes ambitious targets for achievement by 2012, including: i) universal access to improved water supply and sanitation in urban areas, ii) universal access to rural sanitation and iii) access to improved water supply for 98% of the rural population. The UAP was updated in 2011 so as to align with the Growth and Transformation Plan (GTP) and will be further updated with data from the National WASH Inventory (NWI) conducted in 2010-2012.

The **Memorandum of Understanding** (MoU) on integrated implementation of water supply, sanitation and hygiene in Ethiopia is another key sector document. The MoU was signed in November 2012 by the four key ministries in the sector: the Ministry of Water, Irrigation and Energy (MOWIE), the Ministry of Health (MoH), the Ministry of Education (MoE) and the Ministry of Finance and Economic Development (MoFED).[7] The MoU describes the administrative and technical arrangements to manage and administer the WASH sector and it is believed that the new MoU will strengthen the cooperation and integration within the sector, including official recognition of the National WASH Steering Committee and the National WASH Coordination Office.

The **WASH Implementation Framework (WIF)**, prepared in 2011 is also intended to strengthen integration within the sector. The WIF was prepared to achieve the targets of the Growth and Transformation Plan (GTP) and is to act as the guiding document for all WASH implementation. It paved the way for the One WASH National Program (OWNP) which is

[7] It is a revision of a similar MoU signed in 2006, which was not signed by MOFED

described in more detail below. It replaces the Programme Implementation Manual (PIM) of the WSSP, which was drafted in 2004.

2.2.2 Sector institutional and financial arrangements

A number of reforms over the past decade have led to the following institutional arrangements:

At federal level:

- The **Ministry of Water, Irrigation and Energy** (MoWIE) is responsible for preparing national water policy, strategy and standards. The ministry gives technical advice (in the form of manuals and guidelines) to Regional Water Bureaus, and manages the implementation of the largest capital investment projects.
- The **Ministry of Health** (MoH) has the overall responsibility for hygiene promotion, community-led approaches, and introduction of appropriate sanitation technologies and monitoring of the quality of water for consumption.
- The **Ministry of Education** (MoE) ensures that water and sanitation schemes and facilities are provided in schools, supports the establishment of WASH clubs in schools and incorporates WASH in the school curriculum and/or activities.
- The **Ministry of Finance and Economic Development** (MoFED**)** oversees the WASH GTP implementation and is overall responsible for the soliciting, transfer and management of sector funding.

At regional level:[8]

- According to the WIF, regional authorities decide the composition of the regional WASH structures, depending on the size of the region, the scope of the programme and the availability of human resources.
- In each region, there are **Regional Bureaus** of Water and Energy, Health, Education and Finance & Economic Development (referred to as BOFED)
- The regional level WASH structures are involved in the planning, facilitation and monitoring of WASH in both rural and urban areas. They also have a regulatory role for certain tasks as delegated to them by the ministry.

At Zonal level:

- Zones vary in importance depending on the size of the regional state, which varies significantly (see population pie chart in Section 2 above). According to the WIF, each region will decide what, if any, specific WASH institutional arrangements are required at the zonal level and what their functions and responsibilities will be.
- **Zonal Water Bureaus** are responsible for coordinating plans and reporting between Regional Water Bureaus and Woreda Water Offices. Where appropriate, and depending on the size of the region, they also support the Regional Water Bureaus in giving technical support to Woreda Water Offices and Town Water Supply Offices.

In rural areas, at woreda level and below:

[88] As already mentioned, an explanation of administrative units is given in the Annexes

- **Woreda Water Bureaus** are responsible for the design and implementation of small-scale water supply schemes. In towns where there are no municipalities, they are also responsible for providing technical support to the Town Water Supply Offices.
- Woreda Water Bureaus each have a **Woreda WASH Team (WWT)** made up from the offices of health, education, women, and agriculture. The role of the WWT is to prepare and manage a Woreda WASH Program, integrating and coordinating the inputs of the sector offices and other WASH actors.
- The arrangements for WASH management at the kebele level vary in accordance with the needs and resources of the kebele. Where relevant, the Kebele Administration establishes the **Kebele WASH Team** under the direction of the Kebele Manager to manage the kebele level WASH implementation.
- There are two full-time **health extension workers** (HEWs) in each kebele, responsible for, amongst many other things, hygiene and sanitation promotion at household level. At the start of the health extension programme, the health extension workers were supported by WASH volunteers (WASH vols). Nowadays in most regions the WASH volunteers are organised as the **Health Development Army (HDA)** that fights outbreaks of diseases and promotes good hygiene and sanitation practices. Currently, the HDA is organised in a group of five families under a model family that has graduated in 11 of the 16 health extension packages.
- Households using the same water point establish a **WASH committee (WASHCO)**, with members elected among the users of the water point. The committee is responsible for managing the water point and for making minor repairs for which they charge a tariff to users.

In Urban Areas:

- The main difference in the institutional set-up between rural woredas and in towns and cities is that most towns and all cities have established water boards and water (and sewerage) utilities.
- The **Town water boards** consist of members of the different town / city administration departments, representatives from the private sector and the wider community (customers). The boards have the overall responsibility for planning and managing the town's / city's water supply (and sewerage) and for monitoring the operations of the water supply (and sewerage) utility.
- The **Town Water Utility** is responsible for the daily management of the water supply system, and in some towns carries the responsibility for sewerage. However, in reality this means that some utilities deal with septage collection, treatment and disposal, as only Addis Ababa has a sewerage system which is itself quite limited. The utilities' responsibilities include technical operations and O&M aspects as well as customer services, financial and administrative aspects. In towns where the utility is only responsible for water supply services, the municipality is responsible for septage collection, treatment and disposal.
- Promotion of household sanitation and good hygiene practices is the responsibility of the **Town Health Office** under the town administration, with HEWs responsible for promotional activities at household level.

A number of private sector companies are involved in WASH service delivery, especially as contractors for construction and works. MoWIE issues licenses to national WASH consultants and contractors, while the Regional Water Bureaus issue licenses to regional

WASH consultants and contractors. These licences allow them to bid for government contracts, for example in drilling or piped scheme construction. Other important actors are local artisans who construct communal water supply facilities and may also sometimes construct latrines. Some private hardware stores and branches of national level suppliers sell construction materials and spare parts for repairs and maintenance of water supply and sanitation facilities in the regional capitals. There are not many sub-regional outlets selling spare parts, which is identified as a serious problem.

3 Programme overview and initial analysis

The present VFM analysis is focused on the second phase of the WSSP (2008-2013) starting with DFID's involvement in 2008. The unit of analysis is the Common Trust Fund through which funds from both DFID and IDA are channelled, since this is a trust fund programme. It is not possible to separate out which outputs or geographical areas were supported by DFID as distinct from IDA.

The second phase came after a first phase funded by the World Bank which started in 2004 with a funding of USD 116 million funding. This first phase supported the implementation of the decentralization of water sector responsibilities down to the woreda level, as prescribed by a 2002 law. The programme focused on institutional strengthening and capacity building at decentralised levels. This set the basis for infrastructure development in the second phase, which started in 2008.

3.1.1 Programme objectives and results

The objective of the WSSP was to "increase access to sustainable water supply and sanitation services for rural and urban users through improved capacity of stakeholders in the sector"[9]. The project has three components, namely i) Rural Water Supply and Sanitation (RWSS), ii) Urban Water Supply and Sanitation (UWSS) and iii) Program Support. In DFID's original 2007 project memorandum[10], it was noted that "DFID's investment will be used to purchase construction materials and equipment, provide logistical support to implementing agencies, and ultimately increase the number of participating woredas and towns"

The memorandum also justified the trust fund approach by arguing that: (i) the project methodology was already well established and adopted by the GoE as their national approach, (ii) at that time, WSSP woredas were allocated significantly less than those funded by AfDB and UNICEF.

The programme was designed to build the capacity of all stakeholders, both public and private, to plan, construct and maintain water supply facilities and sanitation facilities. It aimed at building physical infrastructure such as hand-dug wells, boreholes, reticulated systems, and, institutional and public latrines; and, provides implementation support including support for hygiene promotion.

Regional governments have primarily managed the implementation of the programme. A key change in arrangements came after the mid-term review in 2007 when the MoH and MoE and the respective regional bureaus became implementing entities for WSSP alongside MOWIE and the regional water bureaus.

The rest of this section explains the objectives and outputs of each component. The activities are described under section 3.1.3.

[9] As stated in the Project Appraisal Document from April 2004 and the Project Paper on a Proposed Additional Financing from February 2010.
[10] These memoranda were the old form of the current Business Case documents

RWSS Component

Under this component, funding was provided for the following purposes:

- To increase the capacity of participating woredas to effectively manage their RWSS programs;
- To increase the capacity of participating communities to effectively manage their water supply and sanitation facilities;
- To ensure that well-functioning water supply schemes are in place in participating communities.

Key outputs included woreda-wide WASH programs, woreda staff trained and equipped to implement their WASH programmes, community water committees established and able to manage their systems, and local service providers capable of supporting the communities to construct and maintain their facilities. The WSSP and Universal Access Plan (2009) included a specific focus on low-cost technologies.

We have included a separate case study of rural water in the Amhara region included as Annex E. We were able to get more detailed output and expenditure data for that region, and discuss the data with government staff and consultants.

UWSS Component

Under this component, funding was provided for the following purposes:

- To increase the capacity of participating water boards and operators to effectively manage and maintain their water supply facilities;
- To ensure that well-functioning water supply systems and improved sanitation are in place in participating towns and cities.

Key outputs included the establishment of town water boards with business plans and sound management systems; local operators with improved management systems; local consulting firms able to support town water boards and operators; and sustainable, efficient and improved water supply and sanitation facilities.

Program Support Component

Under this component, funding was provided for the following purposes:

- To build the capacity of the Ministry of Water Resources (MWR, now MoWIE) and regional water bureau personnel plus regionally-based consultants;
- To equip water quality testing and training centres;
- To develop the MWR (now MoWIE) web site and networking capabilities;
- To monitor and evaluate the programme; and
- To refine policies and programme implementation arrangements.

The WSSP has provided access to improved water and sanitation to an estimated total of 5.1 million (urban and rural) residents, thereby achieving its objective of accelerating the pace of progress towards the UAP goals. These figures are estimates from MOWIE monitoring systems based on assumptions about numbers of people being served by different types of infrastructure, and have not been confirmed by outcome surveys. This is discussed in more detail in the next chapter.

Of these, the number of beneficiaries attributed to DFID based on financial inputs could be 2.2 million (1.9 million rural and 0.325 million urban residents). The WSSP appears to have

successfully applied a demand driven approach to ensure that communities were able to make informed choices about affordable and appropriate technology to optimize their access to clean water and sanitation.

3.1.2 Geographical scope

Initially the WSSP was planned to be implemented in 204 woredas and 50 towns throughout the country with the additional funding from DFID in 2008 and IDA in 2010, project activities were expanded to cover 224 woredas, with woredas included in all regions to varying degrees. That is out of a total of about 670 rural woredas in the country. Projects funded by AfDB and UNICEF covered some of the remaining woredas. According to MOWIE's draft Implementation Completion and Results Report (ICRR) for the WSSP (March 2013), WSSP has also provided support to 87 small towns, 31 medium-size towns and six large towns.

Within the WSSP, DFID resources were not used for selected "DFID woredas and towns", as the funding was mixed in the common IDA/DFID Trust Fund – stakeholders refer to these as "IDA/DFID woredas". However, for the purpose of monitoring, it is estimated that DFID's fund benefited 84 Woredas and 25 small towns according to its share of the funding. The final breakdown by funder is shown in section 3.1.4.

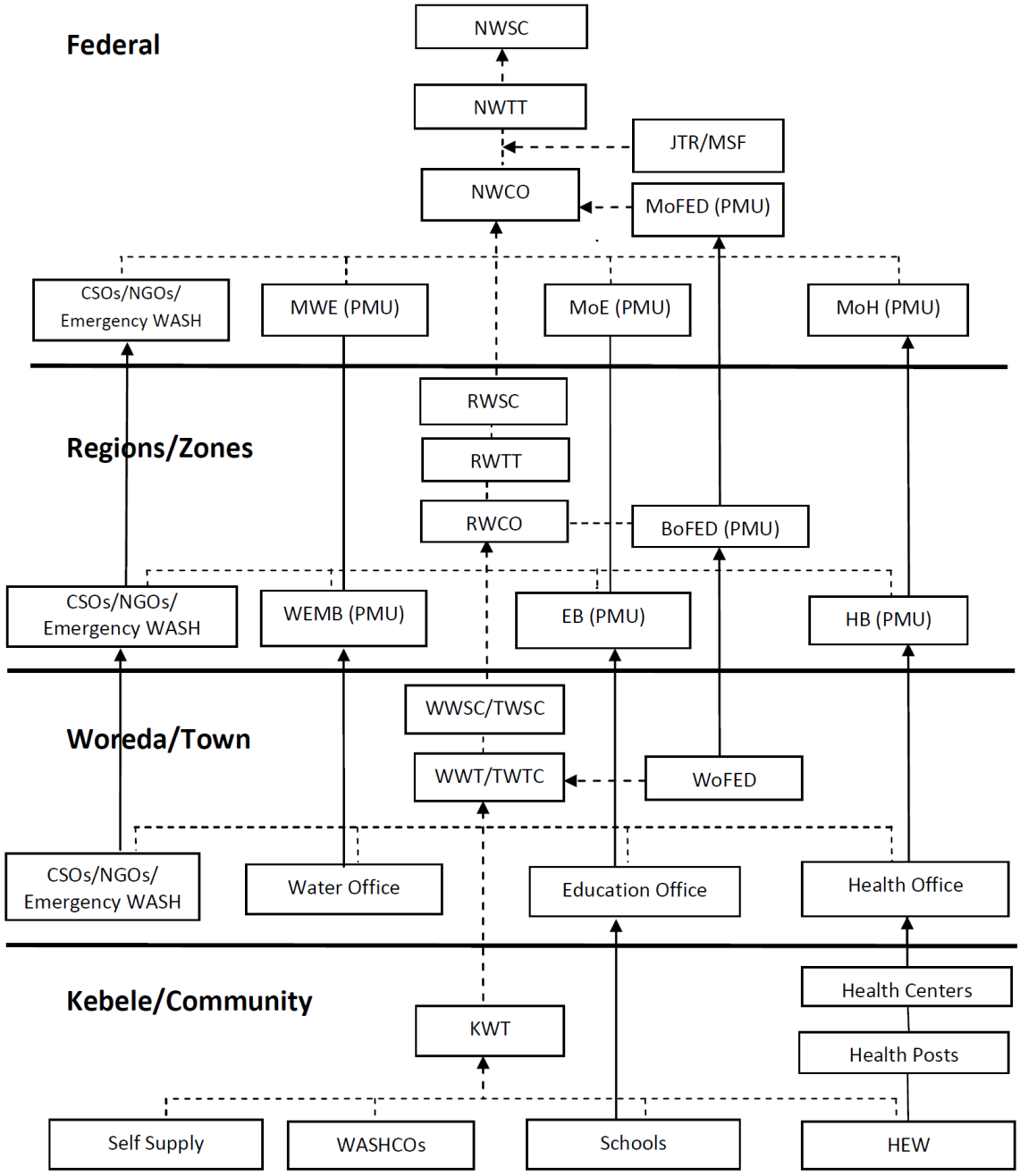
The attribution of inputs and outputs to specific locations is therefore not possible, and the geographical arrangements of the programme are quite confusing with different woredas funded by different donors within the same region. The financing arrangements for how funds flowed from the trust fund down to woredas is described in more detail below.

The programme budget is distributed between regions based on the block grant formula approved by the parliament to maintain equity. As a result, for the rural water supply component, 15% of WSSP woredas (34) are located in "Developing Regional States" (a group of states which have significantly lower key development indicators than other states) such as Somali, Afar, Benishangul Gumuz and Gambela regional states. Together, Amhara and Oromia regions accounted for 63% of constructed RWS schemes and a similar proportion of the number of beneficiaries. For the urban water supply and sanitation component, about 58% of the supported towns are in Oromia, Amhara and SNNPR.

3.1.3 Programme institutional and implementation arrangements

Throughout the whole programme, government systems were used for service delivery. Therefore, all the key institutions are those referred to in section 2.2.2 above. On the following page, the reporting framework from the OWNP programme document is shown as Figure 5. This is the best available depiction of institutional arrangements in the sector and has not changed significantly since the end of the WSSP in 2013.

Figure 5 – Reporting framework for the OWNP



Key:

---- Program Information Flow — Existing Information Flow

NWSC - National WASH Steering Committee
NWTT - National WASH Technical Team
NWCO - National WASH Coordination Office
RWSC - Regional WASH Steering Committee
RWCO - Regional WASH Coordination Office
~~WWSC~~/TWSC - Woreda WASH Steering Committee/Town WASH Steering Com.
WWT/TWTC - Woreda WASH Team/Town WASH Technical Com.
KWT – Kebele WASH Team

Source: OWNP Programme Document, 2013

With regard to implementation arrangements, it would take too long to explain them all in full here – all key detailed are available in the 2004 and 2010 PADs and the WIF, all available online. The most important details, for the two main components, are explained below.

RWSS component

On the rural water supply (RWS) side, the Regional Water Bureaus (RWBs) were primarily responsible for program planning, management and overall coordination within each region. Dedicated WSSP Programme Management Units (PMUs) were established in each region and were responsible for the management of their urban and rural programs, financial management, internal audit, procurement and contracting, capacity building, and monitoring and evaluation.

The PMUs played a crucial role in the tripartite arrangement between government, service providers, and woredas and towns, in pre-qualifying and training regionally based consultants, assisting the woreda and town water boards to secure and supervise the work of the consultants, and in appraising woreda programs and town business plans and designs. Woreda Support Groups (WSGs), made up of consultants, were hired by RWBs to provide technical support to the Woreda WASH teams (WWTs). The WWTs were described in the earlier section on institutional arrangements – they were the key implementing agency at the local level for most RWS projects. However, there were procurement thresholds above which the work had to be managed by the RWB.

The "stepped approach" to RWS is demonstrated in a diagram in Annex D, with the basic idea being first to support the development of woreda WASH plans, and then to develop the capacity of WWTs to implement them. The WWTs put projects out to tender by the private sector, who won contracts in a competitive bidding process. There is no space here to go into more detail on procurement, but it is discussed further in the below sections.

For rural sanitation (RS), programme documentation is not clear as to whether household sanitation was a part of the WSSP or not. Certainly the HEWs (see section 2.2.2 above) are generally perceived to be doing an excellent job on sanitation and hygiene promotion, but from the DFID perspective these are rather financed under the PBS programme (see section 1.2), and there is no direct funding of household sanitation promotion under WSSP.

The Health and Education regional bureaus were responsible for the implementation of the sanitation component alongside woredas. So, the main activities were related to institutional sanitation, especially financing the construction of VIP latrines in schools and health posts. In addition, this is all that is reported in the M&E data. All these factors combine to give the impression that little was achieved on household sanitation under WSSP, though this impression could be caused by weak monitoring rather than weak implementation.[11]

What should be noted, however, was that there was a hygiene and sanitation promotion specialist in each WSG funded by WSSP, who provided training at woreda and community level during the first years of the programme. WSGs also supported the staff in building sanitation facilities for schools and health centres.

[11] In both World Bank Project Appraisal Documents (PADs) in 2004 and 2010, and by extension the DFID memorandum, there is far more attention devoted to the approach to water supply rather than sanitation. For example, the 2010 PAD gives estimates for people to be served but only for rural water but not rural sanitation. Sanitation is almost never mentioned as distinct from water.

UWSS component

Urban water supply (UWS) was also characterised by a "stepped approach". The first step was to focus on institutional set up (such as setting up Town Water Boards (TWBs), utilities, etc.). The second step was to prepare business and capacity buildings plans for TWBs and utilities. The third and final step was to select sites, construct and/or rehabilitate water schemes. For large towns, there was a fourth step of expanding existing networks.

A diagram demonstrating this in more detail is also shown in Annex D. It provides much of the useful information, so all that should be said here is that TSGs of consultants were recruited to support utilities to implement their plans. TWBs were responsible for planning and managing their water supply systems. The Water Board could contract and supervise a local operator to handle routine operations and maintenance and secure professional services to assist them to improve efficiency and expand the system over time.

On urban sanitation (US), WSSP appears to have done almost nothing and it is rarely discussed in any reports, programme documentation or monitoring data.

Monitoring & Evaluation arrangements

While the above diagram is for the OWNP, the main actors (and their sheer number) are the same, and the "existing information flow" is shown. This is therefore a good place to briefly discuss the monitoring and evaluation (M&E) arrangements for the WSSP. The 2004 PIM was updated in 2008 but the M&E arrangements were unchanged, stating that "the primary responsibility for data gathering and compilation will rest on woreda desks, town water boards (TWBs), rural communities, and urban operators." It relies on a pyramid model, with information being aggregated up from communities to MOWIE. At each stage, the relevant actor should compile the information, e.g. on water schemes constructed, and pass it up the chain. The system was paper-based at the lowest levels, moving to spreadsheet-based higher up the chain (regional and national level), usually transferred on CD or pen drive. Later, when the MoH became an actor, the Health Management Information System (HMIS) also became a relevant part of the M&E architecture.

However, there were many deficiencies in the plan, and there also seem to have been many challenges in making the M&E system work even as intended. There is no space to discuss this issue in full here so the focus will be on the potential for sector performance monitoring and VFM analysis.

Firstly, the system of aggregation seemed to work, but the information was then transmitted in such a way that prevented disaggregation again. For example, MOWIE were able to give aggregated data by region, but not separating by scheme type and by region. Secondly, the data was aggregated cumulatively, so MOWIE could not say which outputs were delivered in which years, which precludes analysis of trends over time. Thirdly, only basic intermediary output data was collected (e.g. numbers of schemes, institutional latrines) – the WSSP did not undertake a baseline survey, which precludes any analysis of changes in outcomes over time. Finally, the system was biased towards rural water – no data on household sanitation is available through MOWIE or the HMIS – with regard to urban water, only the number of towns at different "steps" was available, with no information on the number of household

connections, service levels for different users etc. Calculation of beneficiaries for rural water was made on the basis of assumptions rather than surveys, and for urban the method was non-transparent but presumably based crudely on the population of the town. The quality of the data is also unknown as the capacity of woredas is generally acknowledged to have been extremely low, especially in the early stages of the programme.

In summary, the WSSP M&E system appears to have succeeded in collecting basic data on intermediary outputs for the whole 2004-2013 programme period, to let MOWIE know whether they have met the top-level targets. However, the system was not fit-for-purpose for strategic planning or sector performance monitoring, due to the inability to disaggregate across useful dimensions. Furthermore, no data on outcomes was collected. Further discussion of these issues is undertaken where relevant in the sections below. Some of these issues have addressed through the National WASH Inventory (NWI) but there is still a long way to go before Ethiopia has a comprehensive M&E system for the WASH sector.

Programme contracts by procurement level and type of cost

The table below presents the level of government that are responsible for letting contracts for the delivery of programme's objectives, alongside the type of cost allocated to them. All the activities in the table were funded by the WSSP – the types of cost are explained in more detail in the VFM-WASH methodology. Again, it can be seen that all implementation was done through the GoE.

Table 3. Arrangements for programme delivery

Procurement level	Contracts	Type of Cost (VFM WASH)
Federal level (MoWIE)	Technical assistance/training contracts at national level: o National WASH consultants for overall programme management, supervision and training of regional consultants and woreda/town support groups o National WASH consultants for supervision and training of Medium size towns Water Boards and Utilities	Indirect programme support
	Consultancy contracts for studies (design studies, research etc.)	Indirect programme support
	Sector coordination and Implementation of MIS	Indirect programme support cost
	Procurement of goods to regions such as equipment for offices, vehicles	Indirect programme support cost
	International procurement for town water schemes	Hardware cost
Regional Level (Regional sector Bureau of Education Health and Water through BOFED – Bureau of Finance and Economic Development)	Construction of town water schemes: o Feasibility and design contracts o Construction and supervision contracts	Hardware cost
	Construction of large rural water schemes requiring more expertise and design: o Feasibility and design contracts o Construction and supervision contracts	Hardware cost
	Construction of institutional latrines and WASH facilities in schools and hospital	
	Technical assistance contracts for: o Regional WASH consultants for programme management and supervision and training of woreda/town support groups o Woreda Support Groups (WSG) o Town Support Groups (TSG)	Indirect programme support cost

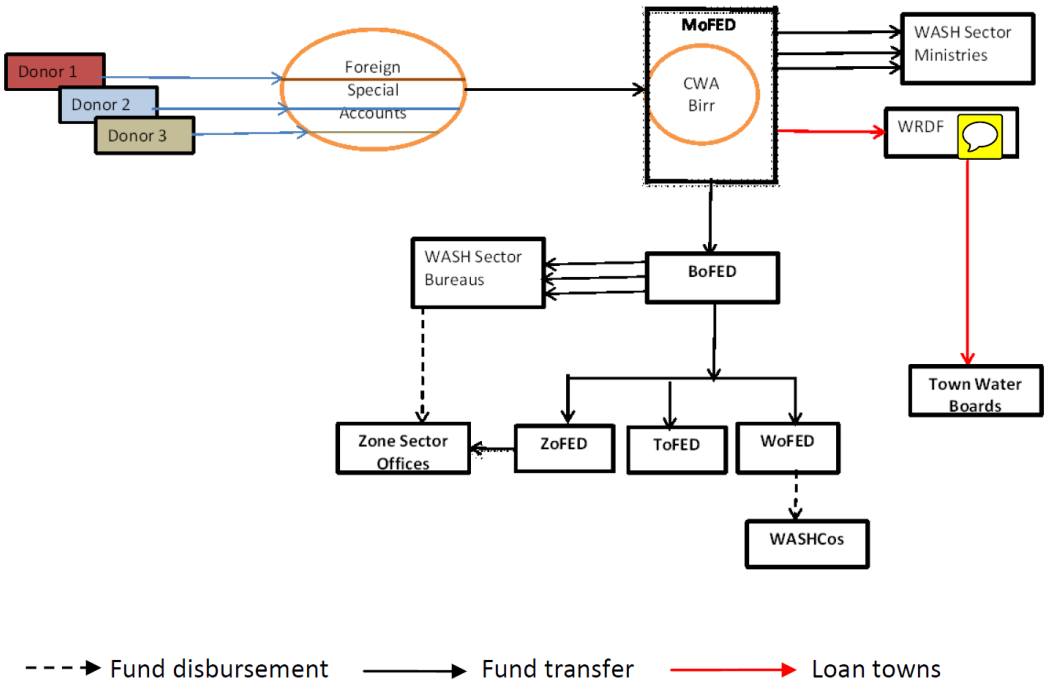
Procurement level	Contracts	Type of Cost (VFM WASH)
	Training to Woreda WASH-teams and WSG to build capability to plan and manage R-WaSH Programs Training to Town Water boards and TSG to build capability to plan and manage U-WaSH Programs	Indirect programme support cost
Woreda level (WOFED – Woreda Bureau of Finance and Economic Development)	Construction of rural water schemes points (Construction and supervision contracts)	Hardware cost
	Maintenance of water points (with local builders)	Hardware cost
	Consultancy contracts for Community Facilitation teams (Community mobilization and training of local artisans)	Software and Hardware cost

Source: Authors.

3.1.4 Financing arrangements

"Before 2008, the funding used to flow directly from the WB to MOWIE and then to the sector line bureaus at regional; and woreda level (Channel 2). With the additional funding, the financing arrangements were modified in 2008. WB and DFID support to the WSSP was provided by the World Bank Trust Fund. This time, funds flew through the MOFED Donor Common Account to Regional Bofed and line ministries. Regional BOFED then disbursed funds to the Woreda finance desk (WOFED) (Channel 1B 4). The Programme Implementation Manual (PIM) guided the overall financial management and implementation of the WSSP. The flow of funds for OWNP, which is very similar, is shown in Figure 6 below.

Figure 6. Flow of funds diagram



Source: OWNP Programme Document, 2013[12]

[12] Acronyms not mentioned so far include ZOFED (Zonal bureau of Finance and Economic Development), TOFED (town bureau of FED), WRDF (Water Resources Development Fund). Birr is the Ethiopian currency. MoFED receives money from IDA in USD and transfers it into a birr account before passing on to BOFED.

In 2008, the project shifted from Statement of Expenditure based disbursement to report based disbursement from the WB Trust Fund to MOFED, in order to facilitate implementation of the project. Funds were disbursed to Regional Bureaus and then Woredas on the basis of their cash flow requirements of the units they manage. Annually, funds remaining uncommitted would be subject to re-allocation. Regions allocated budget to woredas based on their annual budgets and released funding on request. The WB released funds every 6 months based on quarterly unaudited reports, depending on the absorption capacity of regions.

The financing plan was also amended in 2008 to remove the 15% cost sharing required from the government and agreement was reached to cover all the project costs with donors resources. This means that there is no officially recorded direct contribution from the government to the programme, only an indirect contribution through contract staff time (although we know that the government made a direct contribution in Amhara for instance as programme funds were not sufficient). Even then, many of the staff working on WSSP were national consultants paid from WSSP funds.

The figures for final disbursements from each source of funding is given in Table 4 below. As can be seen, DFID's contributions were about 40% of the total. The GoE provided no financial contribution to the programme but did provide substantial inputs in terms of the value of staff time at all levels of government. Many staff working on the programme were, however, consultants paid for out of WSSP funds.

Table 4. Final disbursements from different sources (in millions).

	Allocated	Disbursed	
	USD	USD	GBP equivalent
IDA (original 2004 finance)	100	87	54
IDA (additional 2010 finance)	80	78	49
DFID (from 2008)	107	107	66
GoE	0	0	0
TOTAL	**0**	**271**	**170**

Source: IDA

3.1.5 Variations in approaches

Despite changes in the scope and financing of the project, there were no significant changes made to the objectives and components. The only change in the project design was made following the mid-term review in 2007 when the ministries and bureaus of health and education joined the ministry and bureaus of water as implementing entities for WSSP. The aim of this was to combine and coordinate their efforts in establishing Woreda WASH Programs serving all communities, schools and health facilities, in order to maximize health and related economic benefits.

3.1.6 Focus on sustainability as part of the design

The WASH sector in Ethiopia faces several challenges with regard to sustainability, especially in RWS, not least the availability of spare parts and fund collection for operation and maintenance. These issues are discussed in more detail further below. At this stage, it is worth emphasising the approaches incorporated into project design which aimed to tackle the sustainability challenge. The extent to which sector stakeholders view them as successful is discussed later in the report.

- WSSP set up a **demand responsive approach** to selecting beneficiary communities. Under the RWS stepped approach (see annex), communities first received assistance to form WASHCOMs and prepare facilities and management plans for approval by the woreda. This ensured that communities were willing to contribute to the planning and operation to the WASH schemes constructed. Communities were also involved in the selection of technology based on an explanation by the woreda of the associated investment and ongoing operating and maintenance costs. This aimed to avoid communities demanding technologies, such as rural piped schemes, which they could not afford to pay for.

- The programme was implemented through a **performance based, stepped approach** which allows for capacity building. In order to receiving the funding is provided, the woreda or towns water boards first needed to put in place appropriate institutional arrangements, plan affordable systems with stakeholder consultation and build capacity for implementation. Woredas, towns and communities first receive capacity building support to prepare their own plans, before they receive financial and management support to implement them.

- The programme provided considerable **capacity building** through the WSGs and TSGs, especially in the first years (2004-2008) to set up effective implementation units with adequately trained staff at all levels and systems for monitoring and evaluation. The programme used a cascaded approach to training, where international consultants train national consultants, and national consultants train regional consultants, which had significant positive impact on efficiency.

- The **private sector was actively involved** through large parts of the WSSP being put out to competitive tender, especially RWS and UWS hardware.

4 Main components of the VFM chain

This section presents summary data for each component of the results' chain, ranging from inputs (and input costs), to intermediary outputs, outputs, outcomes and impacts. This provides the basis for calculating VFM indicators for the programme, as in Section 5.
The generic definitions used throughout the VFM case studies are set out in Box 1. The way in which this applies to WSSP is summarised in Table 5 below.

Box 1 - Intermediary outputs, outputs and outcomes - definitions

To distinguish more clearly between outputs and outcomes in the VFM-WASH methodology, we use the following definitions across the VFM WASH country studies:

- An **intermediary output** is defined as an activity (infrastructure or software activity) that is the direct result of the programme and which can be counted as such (e.g. water points and small water supply systems constructed by the programme, number of CLTS campaigns conducted);
- An **output** is the number of people gaining access to WASH services thanks to the programme's interventions;
- An **outcome** is the number of people who use the service over time.

Table 5. Overview of WSSP results' chain

	Activities	Intermediary outputs	Outputs	Outcomes	Impacts
Rural Water	• Construction of rural schemes; • Training of Woreda Water Teams and WASH Committees (WASHCOs); • Training of local artisans to provide spare parts;	• Rural schemes constructed in participating woredas • Water committees set up	• Population gained access to water	• Population has access to sustainable water supply at the intended level of service	• Reduced health impacts (diarrhoea) • More time available for productive activities
Urban Water	• Construction, expansion and/or rehabilitation of water schemes; • Training of Town Water Boards and Town Water Utilities	• Small town water supply systems built • Town water institutions set up to sustainably manage the water supply scheme			
Sanitation	• Community and school mobilisation through CLTS • Construction of institutional WASH facilities in schools and hospitals • Development of a national sanitation and hygiene strategy	• Communities triggered • Institutional WASH facilities constructed	• Population who gained access to sanitation: • ODF communities • New latrines built by households	• Population use improved latrines • Communities remain ODF	

Source: Authors.

4.1 Inputs and input costs

Data on inputs was collected for the second phase of the programme (2008-2013) from annual audited reports, with a brief overview of the expenditure in the first phase of the programme (2004-2008), prior to DFID's involvement. We have converted Ethiopian Financial Years (EFY) to European years to ease comprehension in this report.[13]

4.1.1 Initial programme inputs

This section present the expenditure made on the programme's inputs, per type of expenses and activities. Table 6 below presents the main activities funded by the WSSP (2008-2013).

Table 6. Detailed list of activities funded by WSSP (2008-2013)

Rural Water	• Mobilisation and training of Woreda Water Teams to prepare and execute Woreda WASH plans • Mobilisation and training of communities as part of the Woreda Management model through WASH Committees (WASHCOs) to ensure O&M of water points. • Support and training to local artisans to provide spare parts and maintenance for water schemes • Construction of rural schemes in participating woredas (including hand dug wells, shallow wells and rural water piped schemes); • Equipment with water quality testing;
Urban Water	• Set up and training of institutions to sustainably manage the water supply scheme (Town Water Boards, Town Water Utilities, etc.) • Preparation of business and capacity building plans for Town Water Boards and Town Water Utilities. • Construction, expansion and/or rehabilitation of water schemes
Sanitation	• Community mobilisation through CLTS (via CFTs and Health extension workers) to households and in schools • Construction of institutional WASH facilities in schools and hospitals • Development of a national sanitation and hygiene strategy by the Environmental Health Department in the Ministry of Health.
Indirect programme support	• Refinement of policies and programme implementation arrangements • M&E of the programme; • Implementation of WASH MIS system: ○ Finalisation of National WASH Inventory (NWI) in 2011 ○ Pilot of MIS at woreda level • Building the capacity of the Ministry of Water Resources (MWR, now MOWIE) and regional water bureau personnel plus regionally-based consultants; • Preparation of series of training manuals, guidelines, standards and relevant technical documents; • Provision of Training of Trainers (ToT) training for National Program support consultants, woreda support groups, town support groups, community facilitation teams, project management units at the federal, regional and woreda levels, and various stakeholders at different levels; • Provision of equipment and other support to water quality laboratories, vehicles, office equipment and furniture etc. • Development of the MOWIE web site and networking capabilities; • Management and procurement safeguards by WB

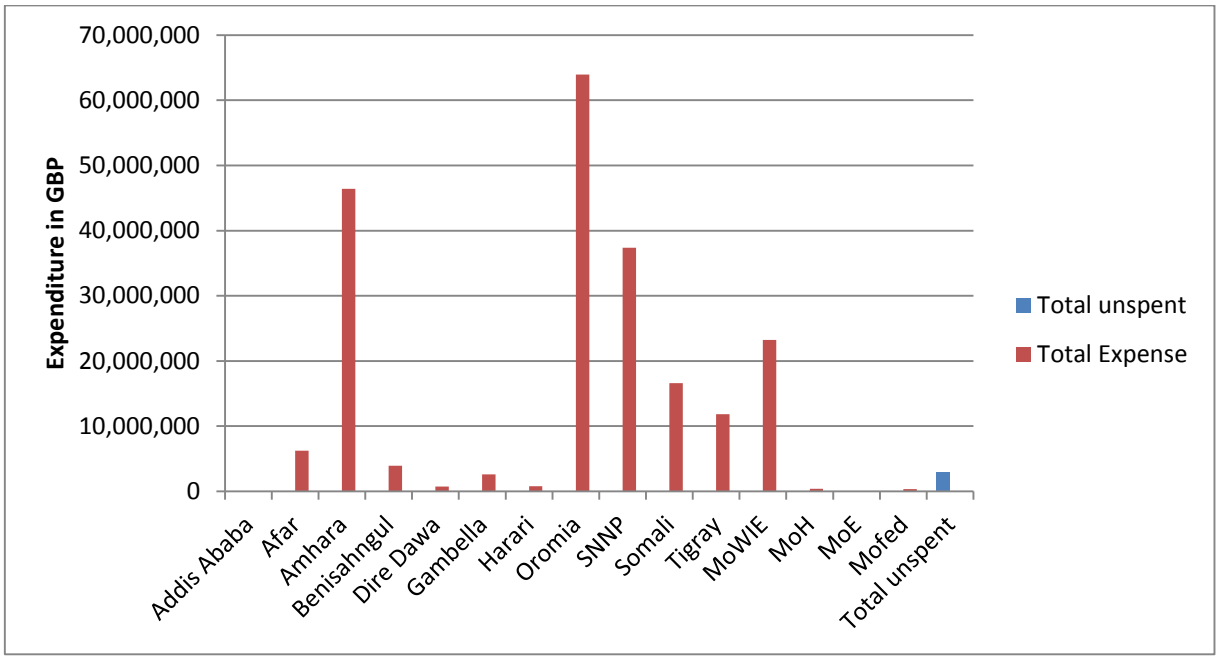
Source: Authors. Extracted from programme annual review report

Overall, the programme expenditure from 2004-2013 was GBP 190 million, or 2.7% above initial budget. Regions spent 98% of the budget allocated by the central government. The

[13] All reports from GoE used the Ethiopian calendar. An EFY starts on July 8th and ends on July 7th. So for instance, 2012/2013 in European calendar refers to 2005 in EFY. In EFY, the programme ran from EFY 1997 to EFY 2006, with the 2nd phase starting in EFY 2011(2008).

regions of focus were Oromia (33.6%), Amhara (24.4%), SNNP (19.6%) as shown in Figure 7 below.

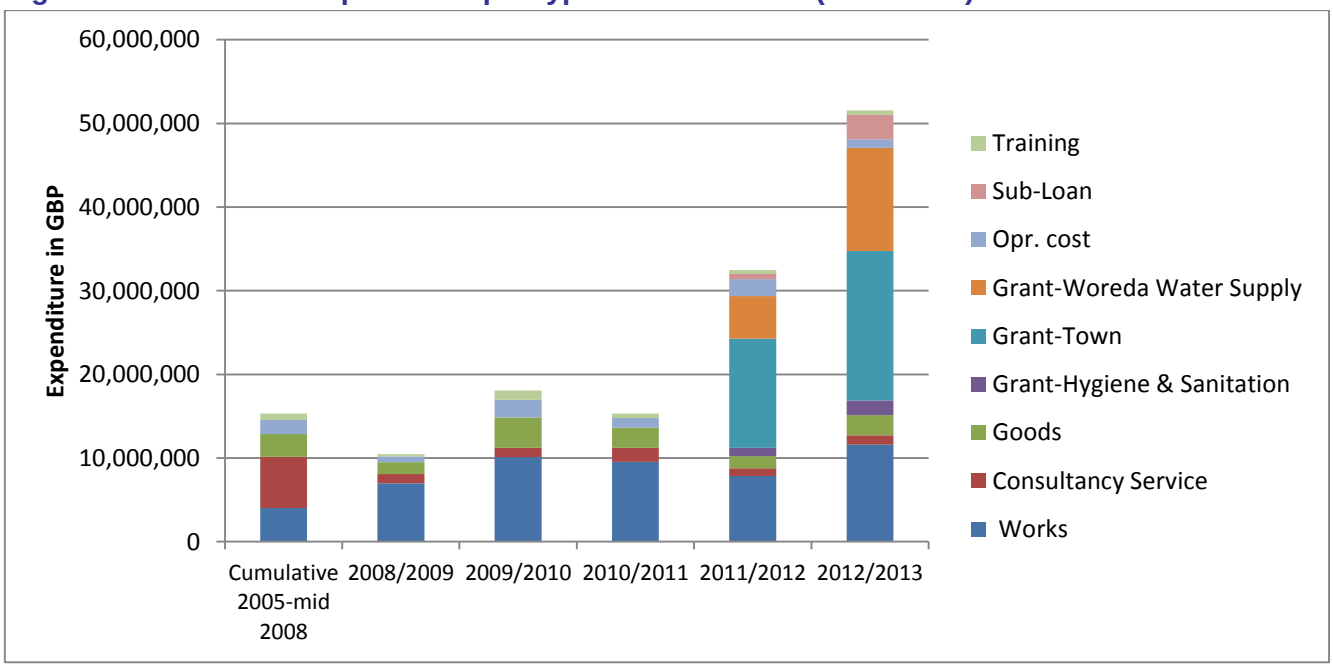
Figure 7. Total WSSP expenditure per region in GBP (2004-2013)



Source: Total WSSP spending (2005-2014) from MOWIE PCR 2014, Table 6

Annual expenditure data is only available since 2005. As shown on Figure 8 below, the expenditure starting from DFID's involvement (2008-2013) represents 92% of the overall programme funding or GBP 127,903,623. Not much spending was done before 2008 as the programme was slow to start. Most of the expenditure (58%) was actually done in the last years (2011 to 2013).

Figure 8. Total WSSP expenditure per type of cost in GBP (2005-2013)

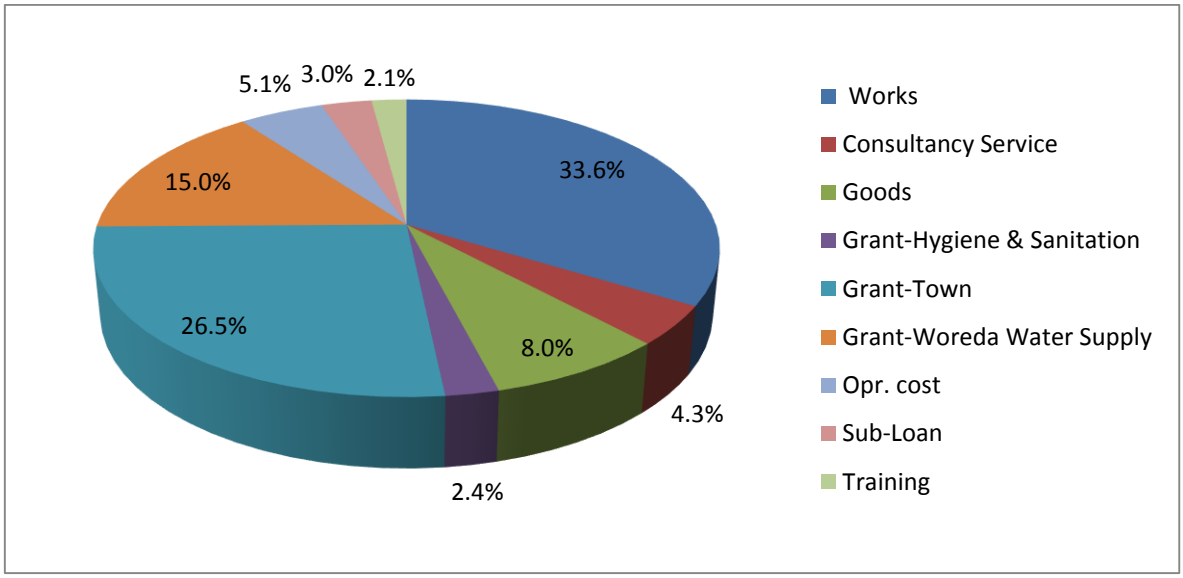


Source: Data from WSSP Audit reports; using annual exchange rates[14]. Nb: the slight decrease in 2010/2011 is due to an increase in exchange rate. Expenditure in ETB remained nearly constant between 2009/2010 and 2010/2011.

According to the programme's financial reporting, most of the budget before 2008 was spent on consultancy services (40.1%), works (26.3%), goods (17.6%).After that, the expenditure shifted towards works, as shown on Figure 8 above.

Figure 9 below shows the distribution of the expenditure since DFID's involvement (2008-2013). The main spending was on works (33.6%) and Grant town (26.5%), followed by Grant Woreda water supply (15%). However these figures are hard to interpret, as "Grant" categories (Grant-Town, Grant- Hygiene & Sanitation, and Grant-Woreda Water Supply). include all types of expenditure which were made at woreda level for these 3 outputs respectively Moreover, these three new categories of costs were only introduced later in a new financial reporting format , from 2011/2012 reporting onwards, and thus makes the yearly comparison of costs more difficult. However, it is very likely that the new reporting format was not consistently applied by woredas. This makes the distribution of costs to outputs not very reliable according to the Ministry of Finance.

Figure 9. Distribution of WSSP expenditure (2008-2013)



Source: Authors using data from WSSP Audit reports (with annual exchange rates)[15]

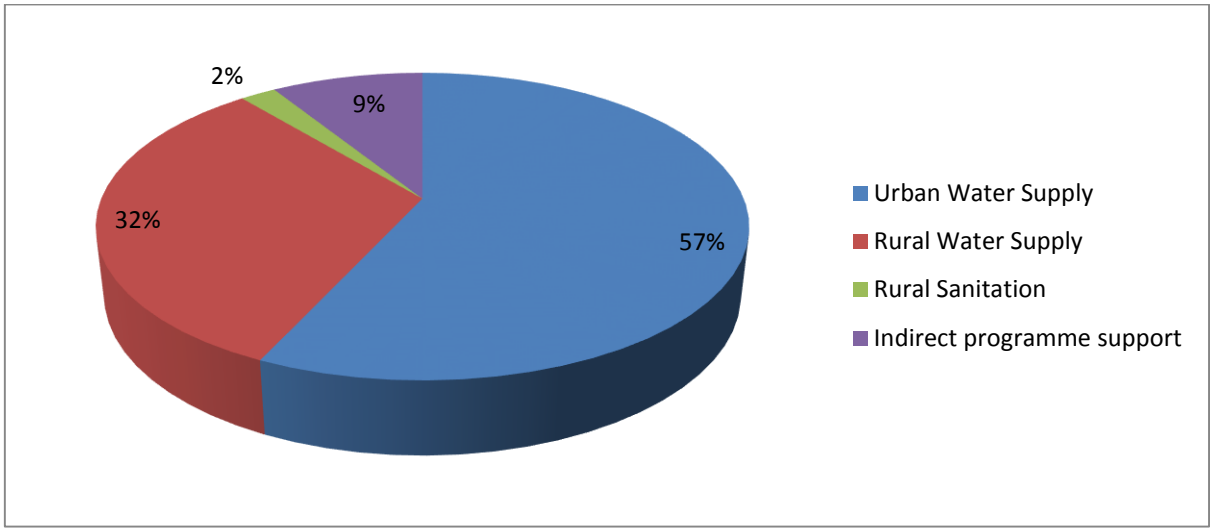
An attempt was made to allocate the costs to the programme's activities by sub-sectors for the purpose of this study. This was done using the financial expenditure data reported by cost categories in the audit reports (presented above), which was triangulated with contract data from regions to allocate costs to activities. However as contract data were incomplete proportion of types of contracts in total contract spending was used rather than nominal amounts. . Therefore this information is only reported here to provide a gross overview of the expenditure and is purely indicative.

[14] Sub-loans are the loans made with programme seed-funding to larger cities to finance urban WASH improvements.
[15] Sub-loans are the loans made with programme seed-funding to larger cities to finance urban WASH improvements.

Figure 10 below shows that most of the programme funds are spent on urban water supply (58% of the programme's expenditure). Rural water supply accounts for 32% of spending and rural sanitation only 2%. This may be under-estimated as the cost category enabling to separate rural sanitation from water supply was only created in 2011 (as shown on Figure 11 below).[16] However, this is consistent with information collected from many informants who agreed that sanitation (both hardware and software) had been overlooked by the programme. This was also noted by the WSSP Programme Completion Report (PCR), which recommended increasing the focus on sanitation in the future One WASH programme.

The proportion of indirect programme support costs is 9%. This includes federal level spending as well as operational costs and training costs from regions. This figure is very likely to be an under-estimate as an important amount of indirect programme support[17] costs (such as consultants to support the programme at regional level) is included in the spending allocated by sub-sector. The federal level spending was also extrapolated from 2011/2013 spending, which might be lower than in previous years. Moreover, it does not include governmental support staff, which is funded by the government, although most of the staff working on WSSP at all levels was actually hired and paid by the programme.

Figure 10. Estimated Distribution of WSSP expenditure per sub-sector activities (2008-2013)

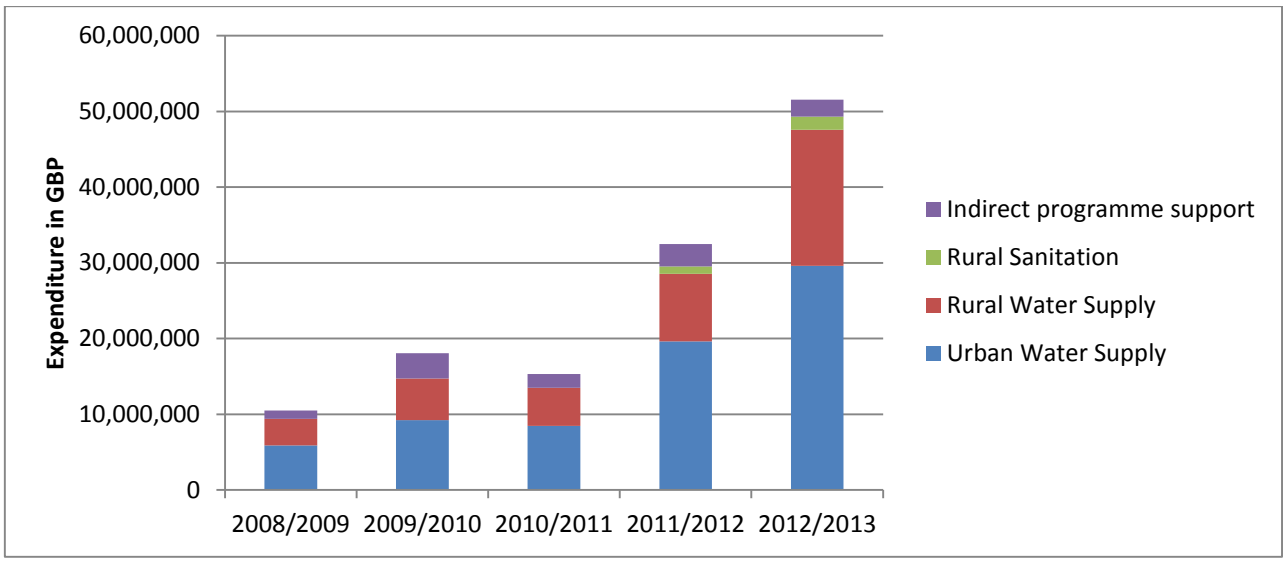


Source: Authors using data from WSSP Audit reports (with annual exchange rates) and incomplete contract data. As estimations had to be made, this is only indicative information to provide a gross overview of the WSSP expenditure.

Over the life of the programme, the distribution of funding to sub-sectors did not change dramatically (Figure 11 below).

[16] Sanitation expenditure was previously included in the water supply category.
[17] Indirect programme support (IPS) is defined as the cost of planning and implementing the activities covered by WSSP. It was not possible to consistently apply this definition here, as it only includes federal level expenditure on programme management and operational costs and training from all levels of administration.

Figure 11. Distribution of total WSSP expenditure per sub-sector in GBP (2008-2013)



Source: Data from WSSP Audit reports; using annual exchange rates[18]. Nb: the slight decrease in 2010/2011 is due to an increase in exchange rate. Expenditure in ETB remained nearly constant between 2009/2010 and 2010/2011.

For the same reasons as mentioned above, it was not possible to disaggregate in more detail the expenditure per type of cost (Hardware, Direct software support, indirect programme support) as in the other VFM studies.

4.1.2 Inputs from other parties and life cycle costs

In addition to the programme's financial inputs, other parties provide resources (financial or in nature) that contribute to reach the programme's targeted outcomes. These costs are presented in a summary manner in Table 7 below.

Table 7. Contributions from other parties to the programme's outcomes

Output	Funding source	Type of cost	Description
Rural water schemes	Community	Hardware costs; O&M	Contribution to construction and OM of the rural scheme (This varies from 3-5% in cash and 5-7% in kind, such as material, digging the borehole etc.). (In communities visited, the cash contribution was saved for rehabilitation)
Urban water schemes	Community	Hardware costs; O&M	Contribution to initial capital costs 5% down payment in order to obtain a loan under this project. This contribution did not happen in the town visited
	Water system operator	O&M	Costs of operating the system
Household	Households	Hardware costs	Initial costs of constructing a latrine,

[18] Sub-loans are the loans made with programme seed-funding to larger cities to finance urban WASH improvements.

sanitation			including: • "hardware" spending on the infrastructure including slab, the superstructure etc. (this is likely to be very small as most facilities are very simple) • Labour costs to dig the pit, install the slab etc.
Institutional sanitation	Community	Hardware costs	In-kind contribution to the construction costs, such as providing labour costs to dig the pit, install the slab etc.
All components	District Government	Hardware costs	Was supposed to make a contribution towards investments- but this did not seem to have happened in reality
	Regional government	Hardware costs	Some regions contributed to hardware costs when the grant was insufficient to meet targets.
	All government level (Woreda, region and national level)	Indirect support costs	Cost of planning and implementing WSSP borne by the government administration, at the district, the province and the national level. The government budget covers: government staff costs and administration overhead costs. In addition, the costs of programme supervision by funders (including by DFID) could be taken into consideration as well.

Source: Authors.

4.2 Outputs

This section presents the data collected on intermediary and full outputs funded by the WSSP. Output data is presented by sub-sector. The main source of data on outputs was MOWIE's draft final Implementation Completion and Results Report (ICRR), written by two national consultants and dated March 2013. It is therefore possible that further progress may have been made since this time, but it is the latest data provided.

The ICRR presents aggregate output data across the whole programme, but the data is not disaggregated by year. Where annual data is presented, they were calculated by going through all the WSSP annual reports and creating a new Excel spreadsheet with the information – annual data was not available or used at MOWIE. In addition, the figures did not always match up – this is indicated in footnotes where this is the case.

Within the reports, the data is often cut in multiple ways (by region, scheme type and targets/actual) across one dimension, but rarely across more than one dimension at a time. This precluded some more interesting types of efficiency and cost-efficiency analysis, and would similarly preclude certain performance management analysis. With a more comprehensive M&E system, this would not be a problem. Methodologies for potential

beneficiary calculation were not consistent across reports. Data was pieced together from various sources to produce the below graphs and tables showing intermediary outputs of the programme.

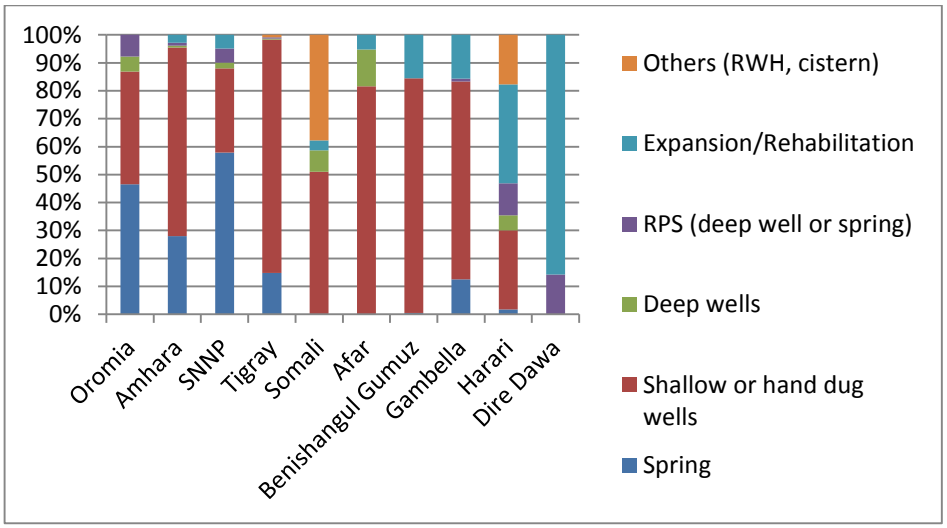
4.2.1 Rural water outputs

While more than half of the programmes expenditure was on urban water supply (UWS), (see finance section above), the most detailed output data is provided for rural water supply (RWS). The tables in Annex CAnnex C show actual intermediary outputs by scheme type, cut separately by region and then by year.

4.2.1.1 RWS intermediary outputs

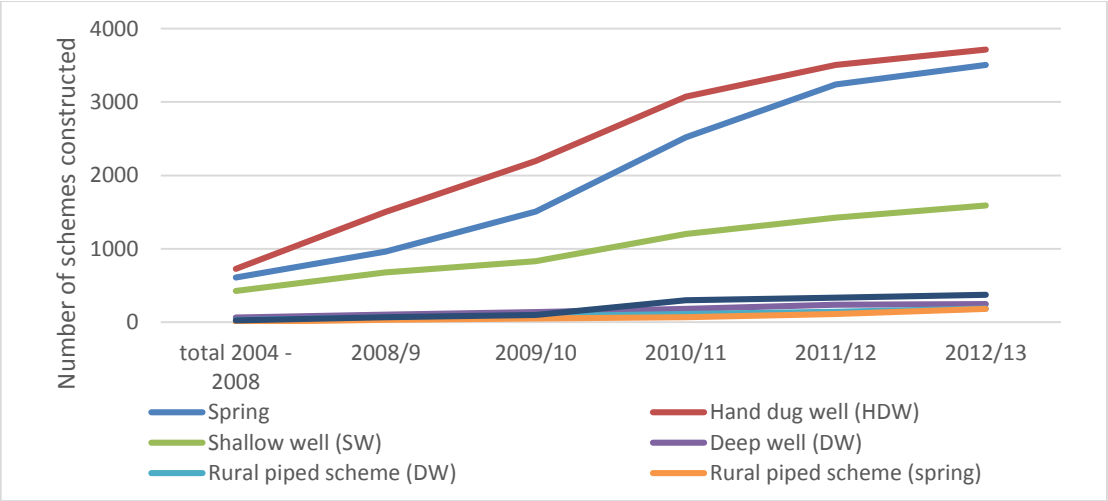
The data in Annex C show that, unsurprisingly, the four most populous regions received the largest number of outputs. Figure 12 below displays that data in percentage form to fully illustrate the types of scheme predominant in each region. As can be seen, springs and shallow / hand-dug wells are the most common technology types across all four regions, with deep wells remaining relatively uncommon. This has relevance for looking at VFM and equity of finance across regions

Figure 12 – actual intermediary outputs by scheme type and region (2004 – 2013), distributed as a percentage



Source: ICRR 2013

Figure 13 Cumulative RWS intermediary outputs achieved, by scheme type



Source: MOWIE Annual Reports

Figure 13 above shows how the development of RWS infrastructure was achieved over time. Hand-dug wells were developed quickly at the beginning, with other types of infrastructure coming more slowly later. This has relevance for conclusions about VFM over time, which will be discussed further below.

4.2.1.2 RWS full outputs

In terms of full outputs ("beneficiaries"), they have been calculated in the ICRR and other reports using supply capacities defined in the UAP and later the OWNP document. For example, a hand-dug well with handpump is designed to serve 270 people. Whether this is an accurate means of calculating potential beneficiaries is up for debate.

However, the beneficiary counting methodology is not consistent across the Annual Reports and the ICCR, and the UAP assumptions do not always appear to have been used.[19] Nonetheless, results from the ICRR are shown in Table 8 below. The ICRR does not report data by year, so extrapolation from MOWIE Annual Reports was necessary to calculate annualised output data and thereby extrapolate beneficiaries per year. It should be noted that even the extrapolated output data (i.e. water schemes) from annual reports does not match up to the ICRR figures, so it is not clear what is going on. We will discuss the discrepancies further with MOWIE.

[19] To check this, we recalculated beneficiary figures using the UAP assumptions. This resulted in numbers of beneficiaries are therefore slightly higher than those in the ICCR.

Table 8 – full outputs and beneficiaries from ICRR (2014)

	Schemes				Beneficiaries				
	revised planned (ICRR 2013)	actual 2004 - 13 (ICRR, 2013)	actual 2008 - 13 (calculated from annual reports)		UAP assumption per scheme	implied planned 2004-13	Revised target 2004-13 (ICRR, 2013)	actual 2004 - 13 (ICRR, 2013)	actual 2008 - 13 (calc. from UAP)
Springs	3,555	3,561	2,900		350	1,244,250	1,112,715	1,212,817	1,015,000
Hand-dug wells (HDW)	3,612	3,844	2,988		270	975,240	975,240	1,028,307	806,760
Shallow wells (SW)	1,647	1,664	1,166		500	823,500	752,679	744,140	583,000
Deep wells (DW)	356	232	181		500	178,000		18,000	90,500
Rural piped schemes (from DW)	335	186	155		3,500	1,172,500	1,005,000	694,637	542,500
Rural piped schemes (from spring)	124	178	180		4,000	496,000	388,492	545,949	720,000
Others	142	385	350		0		4,130	166,600	166,600
Total	9,771	10,050	7,920			4,889,490	4,238,256	4,410,450	3,924,360
							implied % achieved 2004 - 13	104%	

Source: ICRR 2013

4.2.1 Urban water supply (UWS) outputs

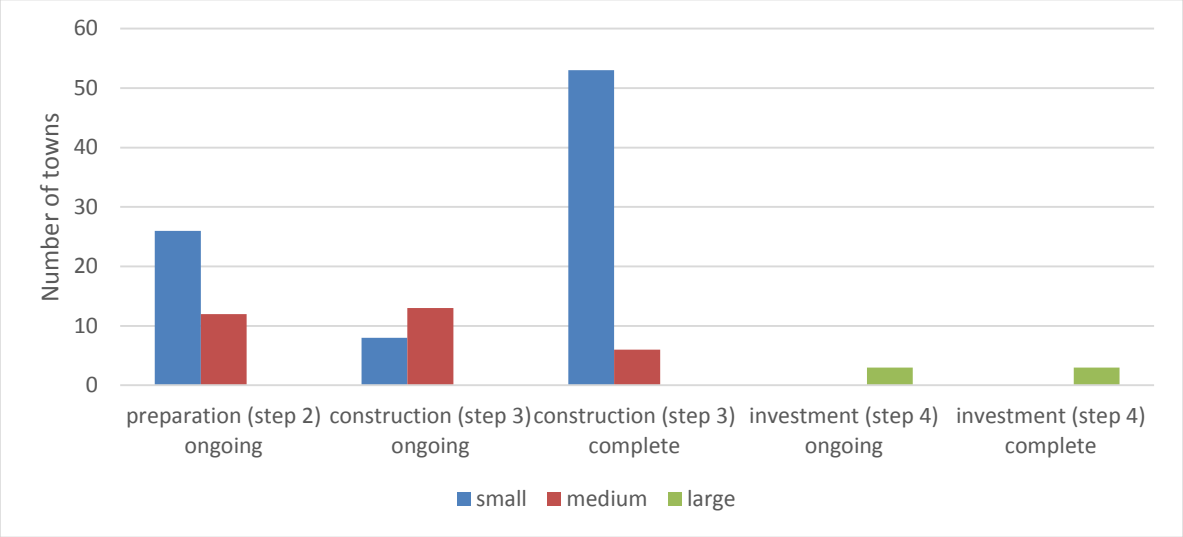
4.2.1.1 UWS intermediary outputs

Urban water intermediary outputs have generally been reported based on the number of small, medium and large towns progressing along the scheme of "steps" as described earlier.

Figure 14 below shows how the 124 small, medium and large towns included in the programme are progressing through the 4-step process. The majority of the 87 small towns have completed construction (step 3), with about 30% never making it to that stage and being stuck in the preparation stage (step 2). Of the 31 medium towns, only 19% managed to complete construction (step 3) and 39% never made it past preparation. All six large towns were at the investment stage, but three of them still have their investment and expansion

ongoing.[20] The main obstacle to the implementation of towns' water investment plans was the lack of available funding.

Figure 14. Number of small, medium and large towns reaching different stages of the stepped process by end 2013



Source: ICRR 2013

4.2.1.2 UWS full outputs

With regard to full outputs, numbers of beneficiaries are reported, but as with the Rural Water Supply component, these should be interpreted with caution. In particular, it is not clear how numbers of beneficiaries were calculated. [21] It is also not clear how the performance in terms of intermediary outputs is to be assessed. For example, no data on new household connections has been collated, only numbers of beneficiaries.

The ICRR reports that there were 896,966 beneficiaries in the "completed" towns and that they expected a further 658,000 beneficiaries in the towns with construction still ongoing. This gives a total of about 1.56 million UWS beneficiaries, but it cannot be disaggregated in any meaningful way (e.g. by region or year) which precludes further analysis.

In summary, the data on urban water outputs, both intermediary and full is not very detailed and does not lend itself to useful VFM analysis, given the complete inability to link inputs to outputs. The draft ICRR claims that 1.4 million urban beneficiaries were reached, but nowhere does it state how this figure was calculated. In addition, the annual reports do not shed any light on this question either.

[20] Nb. these data are from the draft ICRR dated March 2013 and it is likely that further progress has been made since this time.
[21] The tables in the annexes of the ICCR are confusing and contradictory, sometimes presenting small/medium towns together, and at other times presenting medium/large towns together. The Annex to the ICRR gives total populations of all the small, medium and large towns, but there is no indication of the number of beneficiaries from the programme. It is clear that these populations are not being claimed as beneficiaries because the total population adds up to more than double the total claimed number of beneficiaries. This will be clarified with MOWIE in due course.

4.2.2 Rural sanitation outputs

As far as sanitation in general is concerned, monitoring has been less rigorous than for water. On rural sanitation, MOWIE was responsible only for monitoring institutional latrines (i.e. in schools and health posts), whilst the MOH was delegated the responsibility for monitoring household sanitation. However, the MOH has by all accounts not made this a high priority, with the consequence that little data is available. The HMIS data seen at regional level did not show itemised sanitation data on household sanitation, meaning that the WSSP did not collect intermediary or full output data on household sanitation.[22] Anecdotally this information is collected at the local level but it is not considered an important enough indicator in the HMIS to aggregate. In theory DHS or WMS data could be used, alongside assumptions, to calculate changes in use of latrines, from which outputs could be extrapolated, but this methodology would not be very rigorous at all. Furthermore, WSSP was far from the only programme operating in the county at the time, and it is hard to attribute causality in household uptake of sanitation to WSSP – households could have built latrines autonomously.

4.2.3 Urban sanitation outputs

Urban sanitation does not appear to have been a priority within the WSSP, with close to zero activities or outputs reported at any stage. According to the capacity building evaluation report (DFID Evidence of Demand, 2013), all WSSP-supported towns are reported to have prepared integrated sanitation plans. Most of these plans focus on construction of public latrines. A few public latrines have been constructed in some of the programme towns, but otherwise only a few towns in SNNPR and Tigray regions are reported to have implemented their sanitation plans. The WSSP-supported towns visited by the evaluation team had not implemented their sanitation plans. The programme has provided very little, if any, training on sanitation and hygiene promotion.

4.3 Outcomes

This section presents the available data on water and sanitation outcomes. No specific baseline survey was conducted under the programme, so it is hard to establish how progress on outcomes should be measured. As a result, it is not possible to estimate effectiveness in the VFM section, since we cannot strongly link outputs to outcomes. Nevertheless, since the WSSP is close to being a national programme, and indeed the precursor to OWNP, it is useful to consider WASH outcomes at the national level in this section.

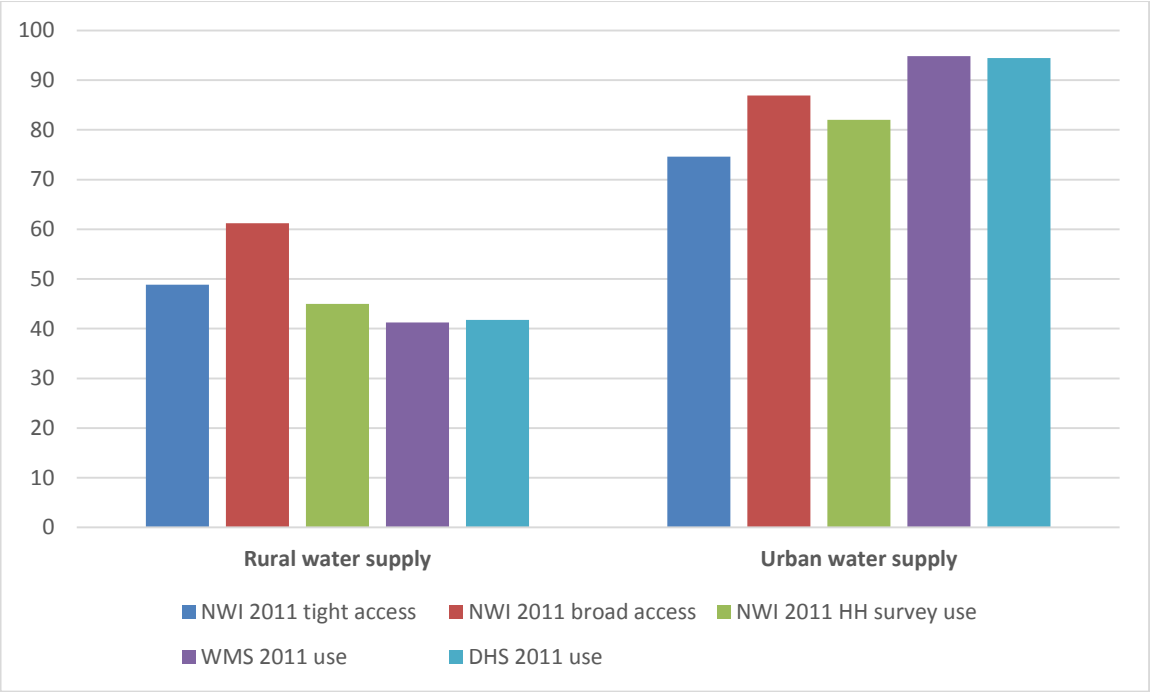
Older "coverage" data calculated by MOWIE on the basis of outputs does not tally with nationally-representative household survey data on outcomes nor the new National WASH Inventory (NWI). The data currently in the NWI was collected in 2011 for all regions except Somali and, though the data quality is not trusted by some in the WASH sector, it is discussed below.

[2222] One of the few places where it appears (a MOH document entitled "Health and Health Related Indicators" for EFY 2004, i.e. 2007-8) the data on "latrine coverage" does not tally at all to survey outcome data.

The best source of outcome data in general is nationally-representative household surveys conducted by, or with the participation of, CSA. Such survey data is collated by the JMP and presented by them in a way that uses the same definitions of improved/unimproved WASH across surveys and countries.

The data from those household surveys was presented in Figure 4, for all four-subsectors. It is not reproduced here, so this section should be read while looking at it. However, it is worth showing a comparative graph showing how data from the NWI matches up to other sources of data for different years (Figure 15), As can be seen the access figures from NWI (whether "tight" or "broad", definitions further below) are generally higher than the NWI 2011 household survey figures, which generally tally with DHS 2011 and WMS 2011. The conclusion should be that the NWI household survey is the most appropriate NWI source for outcome data.

Figure 15 – Comparing "coverage" figures from NWI and household surveys



Source: Compiled by authors from NWI 2011 household survey, DHS 2011 and WMS 2011

In the previous section above, it was shown that potentially more than 4.5m people benefitted from the rural water supply outputs. Some of this will have been effectively translated into outcomes in the form of people using facilities. From the data in Figure 4 we might conclude that use of improved RWS has increased by around 10 percentage points during the WSSP, from about 34% in 2008 to about 44% in 2013. However, the extent to which those changes in national use of improved WASH should be attributed to WSSP is unclear. It was only one of several programmes operating in the country at the time. Since there was no useful output data on sanitation, there is no need for further analysis here.

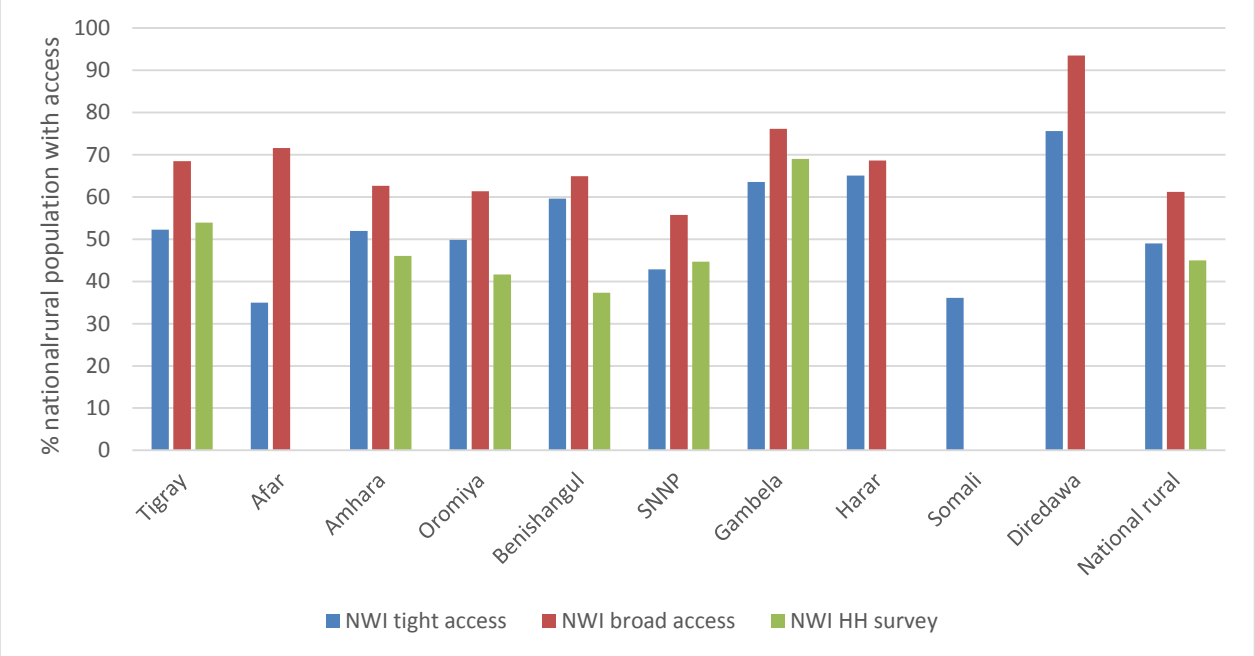
In urban water there has been an upward trend since 1990, but progress has probably stagnated since around 2005, with around 5% of the urban population still not using an improved water source. While this is a low figure, it is also worth highlighting that the MDG indicator displayed above only measures the infrastructure used and not the associated

service level (e.g. time taken, service reliability, water quality). Since the WSSP has not been monitoring users in a clear way, and the extent to which their level of service has changed, no conclusions can be drawn.

While the programme claims 1.5 million beneficiaries in urban areas, this does not seem to have had any impact on the national outcome figures. Two key explanations for this include firstly, that there has been significant rural/urban migration in Ethiopia during the WSSP's lifetime (i.e. the programme is running to stand still), and secondly, that some of the beneficiaries probably already used an improved infrastructure but have benefitted from increased service levels due to the intervention.

It is useful to look at national-level data on outcomes by region too, and also take the opportunity to reflect on the effect of using different data sources (and the implications this could have for effectiveness calculations if good outcome data becomes available under OWNP). Available NWI data on RWS is shown in Figure 16 below. In Amhara, 52% of people have access to an improved water source within 1.5km ("tight access", but still quite a long distance by the standards of other countries), but once the distance restriction is removed ("broad access"), the figure rises to 63%. Both these indicators are calculated based on assumptions using output data. Finally, the household survey carried out under NWI asks people directly which water source they use (rather than making an assumption based on available infrastructure), and the figure falls to 46%.

Figure 16 – Regional RWS access using different definitions from the NWI



Source: NWI

With regard to rural sanitation, data was apparently collected as part of the NWI 2011 household survey, but we were not able to get access to this. We will follow up on this in the coming months.

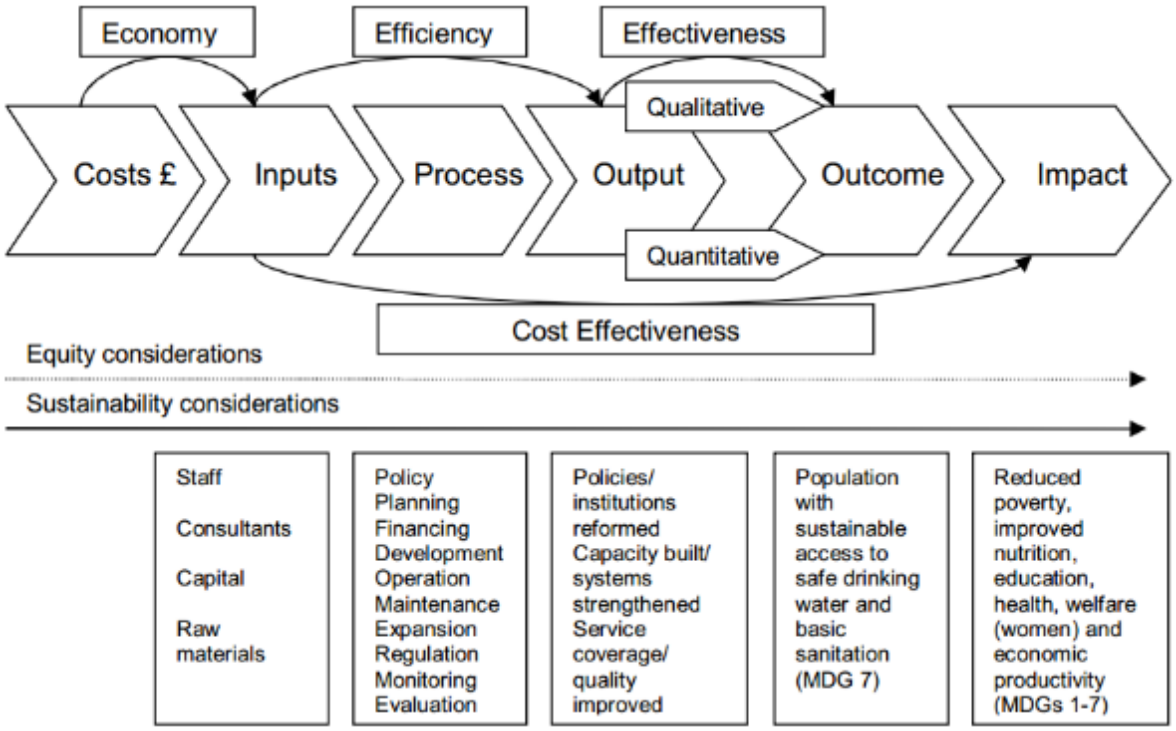
4.4 Impacts

The WSSP contained neither a baseline nor endline survey so there is no impact data available, e,g, with regard to health impacts. To attempt to link diarrhoeal disease prevalence data from DHS to rural water output data would not be a credible methodology, as there are a huge numbers of determinants of those impacts. Furthermore, health specialists are increasingly sceptical about the validity of self-reported diarrhoea estimates. Proper impact evaluations cost millions of dollars and, in the absence of a proper impact evaluation for WSSP, cost-benefit analysis will be beyond our reach. Hopefully the upcoming impact evaluation of OWNP will provide useful information for the sector in this regard.

5 VFM analysis

This section presents the results of the VFM analysis based on key indicators reflecting economy, efficiency and cost efficiency, effectiveness and cost effectiveness. The indicators used in the present VFM-WASH methodology are based on DFID's VFM conceptual framework as laid out in Figure 17 below.

Figure 17. DFID Results Chain



Source: DFID WASH Portfolio Review (2013)

The methodology enables to calculate standard VFM measures as listed in Table 9 below. However it was not possible to measure all these indicators because of limited data availability.

Table 9. Definition of VFM indicators

VFM Analysis	Indicators	Comments
Economy	• Unit costs of inputs and contracts supplied	These indicators look at the cost of inputs and whether the procurement of the programme was efficient and resulted in competitive prices.
Efficiency	• Number of water points and systems built and % of target realised • Number of beneficiaries reached by new water point and systems constructed	These indicators measure the efficiency of the programme interventions in turning inputs into outputs, e.g. whether the programme was able to implement the outputs as planned. They provide an indication of the performance of programme implementation arrangements and management.
Cost Efficiency	• Programme unit cost per output (cost per scheme)	These indicators measure the costs to implement one unit of output and/or

VFM Analysis	Indicators	Comments
	• Total programme unit cost per beneficiary with access to water and sanitation services (output)	reach one beneficiary. They show the cost-performance of the programme implementation arrangements and management.
	• Indirect programme costs	
	• Total cost (programme and non-programme) per beneficiary with access to water and sanitation services (output) • Leverage ratio of other sources of financing	These indicators could not be reliably compiled for the study so far due to the lack of data on number of beneficiaries.
Effectiveness	• Percentage of outputs that are effectively used and still delivering adequate services 2 years down the line	• These indicators measure the effectiveness of the programme at turning outputs into sustained outcomes. • These have not yet been included in the study so far. They require additional information on outcomes.
Cost-Effectiveness	• Total program cost per user/ per person with sustainable access to water and sanitation services (outcome)	
	• Total cost (programme and non-programme) per user/ per person with sustainable access to water and sanitation services (outcome)	
Cost-Benefit	• Benefit-cost ratio on health impacts, time saved etc.	
Equity	• Access to services by specific groups (defined either in terms of poverty quintiles or disadvantaged group)	These indicators could not be included in the study due to the lack of reliable information on the number (and poverty characteristics) of beneficiaries.
	• Efficiency and effectiveness indicators by poverty quintiles	
	• Cost-efficiency and cost-effectiveness indicators by poverty quintiles	

The table below summarises the key VFM indicators presented in this section. It was not possible to calculate all indicators, are because of lack of data in this analysis. The only estimates of VFM indicators available are the efficiency and cost efficiency indicators. No VFM indicators could be calculated for sanitation due to the lack of data.

VFM indicators are presented in real terms, i.e. adjusted for inflation and ETB/GBP exchange rate variations (using 2008 as year base). This allows comparing indicators across years (although there are some limitations as mentioned below).

There is a separate case study of rural water in the Amhara region included as Annex E. We were able to get more detailed output and expenditure data for that region, and discuss the data with government staff and consultants.

Table 10. Summary of VFM indicators

	Rural water			Urban water			
Type of indicators		Comment		**Small**	**Med.**	**Large**	Comment
Economy							
	-	no data		-	-	-	no data
Efficiency							
Actual achievement against planned intermediary output targets (2004 - 2013)	99.7%	disparity between regions		61%	19%	50%	i.e. construction complete
Cost Efficiency							
Cost per intermediary output (i.e. per infrastructure/ delivery)	-	no data		-	-	-	no data
Cost per final output (i.e. per beneficiary):							
2004 - 08	£8.12	early stages		-	-	-	no data
2008 - 13	£10.12	at scale		-	-	-	no data
2004 - 13	£9.77	overall		£59			£106 if only completed towns
Effectiveness							
Predicted outcomes (beneficiary estimates) against actual outcomes (people using services)	-	no data		-	-	-	no data

Source: authors, costs are expressed in real terms using constant 2008 exchange rate ETB/GBP and adjusted for inflation (base year=2008).

The summary of findings on VFM indicators is below in Table 11. Overall, conclusions can only be drawn on water supply, particularly rural water supply, as insufficient data was available to enable the calculations that have been achieved for other case study countries. From the cost-efficiency data on RWS (cost per beneficiary of about GBP 11), it seems as though the WSSP broadly achieved VFM in that its achievement is close to the planning unit costs set out in the UAP and OWNP. However, the caveat should be made that the beneficiary data is based on assumptions about numbers of people using facilities, and no baseline or endline survey was completed.

On UWS, assuming that all towns are eventually completed using the original budget (as is suggested in the ICCR) a cost per beneficiary of GBP 58 is acceptable, with the same caveat, as unit costs in urban are always higher. However it is slightly higher than the national average of GBP 40 implied by the OWNP document. Without more transparent data on how urban beneficiaries were calculated, it would be unwise to draw strong conclusions on this. If additional finance was used to finish the remaining towns, then the unit cost would creep higher and begin to suggest significant inefficiencies as compared to the OWNP planned costs. The slow pace of finishing all the towns is certainly something which may reduce VFM on efficiency grounds. Full analysis of the data is carried out below in the rest of this chapter.

Table 11. Summary findings on VFM indicators

VFM variables	Findings
Economy	• Large unit cost rises during lifetime of programme due to increases in prices of labour and construction • Geographic distance and hydrogeology impact on unit costs • Procurement and contracting structures are not optimised for delivering economy
Efficiency	• The largest and most developed regions have hit their RWS targets whereas the poorer regions (e.g. Somali, Afar) have met less than 50% • Disbursement timescales do not tally well with the "construction season", leading to inefficiency in waiting for a small window
Cost Efficiency	• In RWS, average unit costs are broadly consistent with UAP predicted figures • In UWS, many towns were behind schedule due to various delays, reducing efficiency in view of consultant contracts • An urban beneficiary costs about 5-8 times as much as a rural beneficiary, provided we trust the data
Effectiveness and Sustainability	• Overall effectiveness has been hampered by staff turnover, delays and weak capacity at local levels • Functionality of rural water points, one indicator of sustainability, averages 74% across the country, suggesting problems with effectiveness over time • Sometimes inappropriate technology choices are being made despite the demand-responsive approach

5.1 Economy

Economy indicators evaluate whether inputs were bought at the appropriate quality and at the right price. It was not possible to collect unit costs data on inputs (e.g. handpumps, and equipment, labour cost etc.). This assessment mainly relies of interviews and the PCR to assess the level of input costs and drivers affecting economy of the programme. In terms of external drivers, several factors can affect the price of inputs used as part of the programme:

- **Economy and market structure**

Economy needs to be assessed in the light of external factors affecting prices. Expenditure was affected by variation in exchange rates (-65% between 2008 and 2013 to the GBP) and the high inflation rates (23% on average since 2008 with a maximum peak of 44% in 2008). Construction and labour costs have increased dramatically in the last 3-4 years. Inflationary pressures on the cost of materials and equipment have also had an important cost impact. For example, according to DIFD PCR (2013) in Oromiya the per capita cost for a rural pipe scheme practically doubled from USD 24 to USD 47 between 2008 and 2013, which is very much associated with the global increase in scheme prices at the time. Budgets were revised in 2008 and IDA provided an additional loan of USD 80 million in response to cost increases.

Sub-projects have been tendered competitively to keep costs down. But the level of expenditure is also affected by the markets structures in Ethiopia. The supply market in Ethiopia is somewhat limited, thus driving costs up. MoWIE is starting to take steps to support private sector capacity for drilling and artisan capacity. Thus the WSSP combined of alternative sourcing (local and international). Many inputs such as electro mechanical equipment or vehicles have to be imported and import licences are very expensive for suppliers.

- **Geography and distance to the capital city**

Costs are also driven by geographic determinants. Costs are higher in regions that are further away from the capital city and in remote areas, such as in Somalia region. This is due to higher transport costs (for equipment), the need to attract personnel to these remote and harsh working places and the lack of infrastructure. Drilling costs are also be higher in regions with low water tables.

In terms of internal drivers, several factors can affect the price of inputs used as part of the programme:

- **Procurement capacity**

The decentralisation of procurement for the construction of rural water schemes at woreda level reduces possibilities for economies of scale. The Fiduciary Risk Assessment (FRA) conducted by UNICEF in 2013[23] considered that "Generally, the entire woreda procurement process was very weak. The lack of technical skills of personnel working in procurement represents a risk compromising the quality of the procurement process. The involvement of WOFED personnel that are also involved in financial payments and others represents a risk." It was generally found at all levels of programme implementation that the weaknesses of the procurement come from the execution, compliance, monitoring/oversight and the enforcement (implementation). This could be a driver for high costs.

- **Contract structures and size**

WSSP used mainly individual contracts for construction and not turnkey contracts[24]. Smaller size contracts may reduce possibilities of economies of scale and increase unit costs. This also means that siting, drilling and supervision are done by different contractors. Sometimes, regional consultants are responsible for siting. Therefore the contractors are not accountable for dry boreholes. In Amhara for instance, 23% of deep wells were abandoned after drilling for various reasons. In terms of expenditure, the abandoned wells constituted 14% of the total value of deep well contracts. Similarly, 11% of shallow wells drilled were abandoned for lack of water. This drives down cost-efficiency. Moreover a review of the contracts database showed that materials are often contracted separately from civil works. In Amhara, they used to be contracted jointly in the past, but had to change and his has been a source of inefficiencies.

[23] OWNP Fiduciary Risk Assessment Report, 2013

[24] "Turnkey contracts" refer to the bundling of materials and labour contracts to one contractor, who then sub-contracts out the other elements. In this case, it also refers to bundling together the siting, drilling, civil works and installation of mechanics for a water supply scheme for instance.

5.2 Efficiency and cost-efficiency

This section evaluates how well the inputs have been converted into both intermediary outputs (infrastructure built) and full outputs (beneficiaries). Results are first presented by main type of programme components. Issues common to the 3 components related to the efficiency of the programme's management and the indirect support are discussed in the last section 5.2.3. Throughout, efficiency and cost-efficiency are assessed jointly. The key indicators are as follows:

Efficiency

- Estimated achievement against planned targets for intermediary outputs
- Estimated beneficiaries per intermediary output against planned targets

Cost efficiency

- Estimated unit costs per intermediary output (i.e. per infrastructure)
- Estimated unit costs per full output (i.e. per beneficiary)

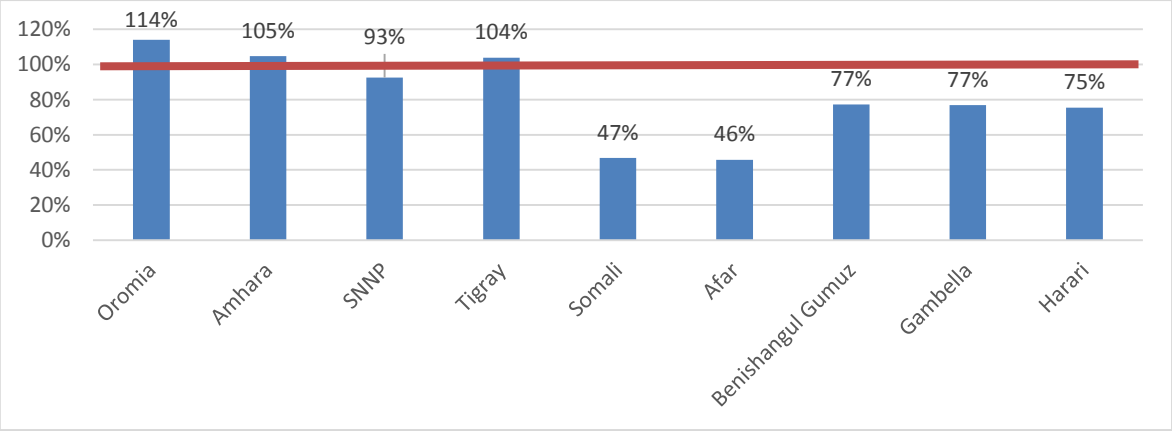
5.2.1 Water outputs

5.2.1.1 Rural water supply

Output efficiency

As shown in Figure 18 below, in the more populous regions, targets were generally met or exceeded, but smaller regions (especially Somali and Afar) have fallen behind. However, plans have often changed over time across regions. For example, in SNNPR, there seems to have been a substitution away from springs and hand-dug wells towards more sophisticated technologies. (See full data in Table 17 in Annex C).

Figure 18. Efficiency of RWS intermediary outputs (planned and actual schemes) – 2004 – 2013



Source: ICRR – nb. y-axis shows percentage of planned targets achieved. Red line is 100%

In addition, Table 8 in Section 4.2.1 above shows that about 92% of the planned beneficiaries were probably reached. But once again, the poor accuracy of the beneficiary estimates (which are made based on targets and assumptions) needs to be highlighted. [25]

One ongoing debate in the sector about efficiency and effectiveness is around the implementation approach at the community level. As discussed in section 2 above, some stakeholders advocate woreda-managed programmes and others community-managed programmes. Woreda managed programmes are centrally set up through the public administration, they respond to communities' demand, but are managed by the woreda administration. Community-managed programmes on the contrary leave the management of water point construction to the communities. This is not the place to discuss in detail– what can be noted from fieldwork is that Woreda WASH team members were often extremely busy and travelling, meaning that it was hard to convene the whole WWT in order to make decisions. This appears to delay implementation considerably in many woredas. On the other hand, the country still remains very bureaucratic and including a demand –led approach from communities in the planning and decision making process is still very difficult.

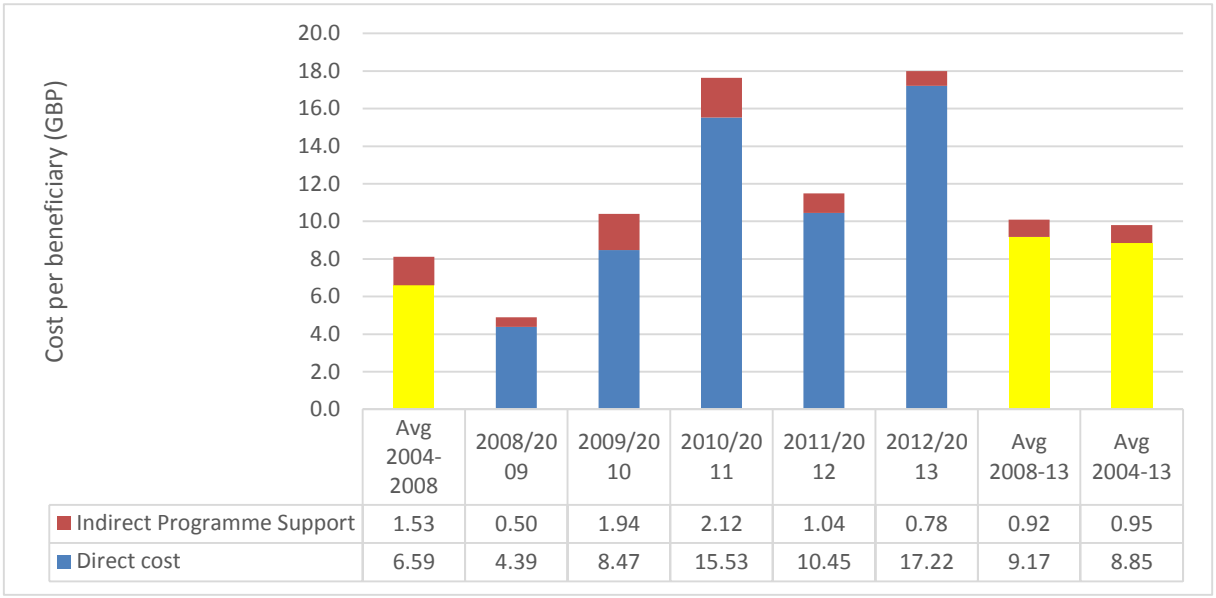
Other factors contributing to delays, and therefore reduced efficiency, include problems around disbursement patterns and the rainy season. Construction of many types of scheme needs to be completed during the dry season, both for practical logistical reasons, and the fact that it is bad practice to drill or dig wells when the groundwater level is at a seasonal high. In Ethiopia, this results in a short "construction season" between November and May. However, the Ethiopia financial year runs from July to June, meaning that much of the time between July and November is wasted waiting for construction to be able to start, and funds are not always disbursed at the right time.

Cost efficiency

On the cost-efficiency side (i.e. cost per intermediary output) only a few calculations could be made due to the data quality.[26] It is possible to calculate an aggregate cost-per beneficiary indicator, though this cannot be disaggregated across scheme types.[27] This data is presented in Figure 19 below. In order to focus on the time of DFID's intervention (2008) and the time previously, and facilitate comparison between that and the earlier period, the averages for both 2005-13 and 2008-13 are shown. Figures are presented in nominal terms.

[25] Data problems emerge here, because the UAP standards for estimated users per scheme do not appear to have been used consistently in ME reports across the years and in the ICRR. Planned and actual beneficiaries have been recalculated from the scheme numbers using the same UAP / OWNP assumptions throughout.
[26] Reason for this is that the management systems of WSSP have generally not attempted to connect inputs directly with outputs. In addition, the analysis is constrained by the severe challenges related to the financial input data (see section above).
[27] Cost-per-scheme could be calculated but since the data do not allow us to connect financial input data to individual types of schemes, such a figure would be meaningless as it conflates hand-dug wells with rural piped schemes. It would give an average figure across all these.

Figure 19. Cost-efficiency of RWS full outputs (cost per beneficiary), 2004 – 2013



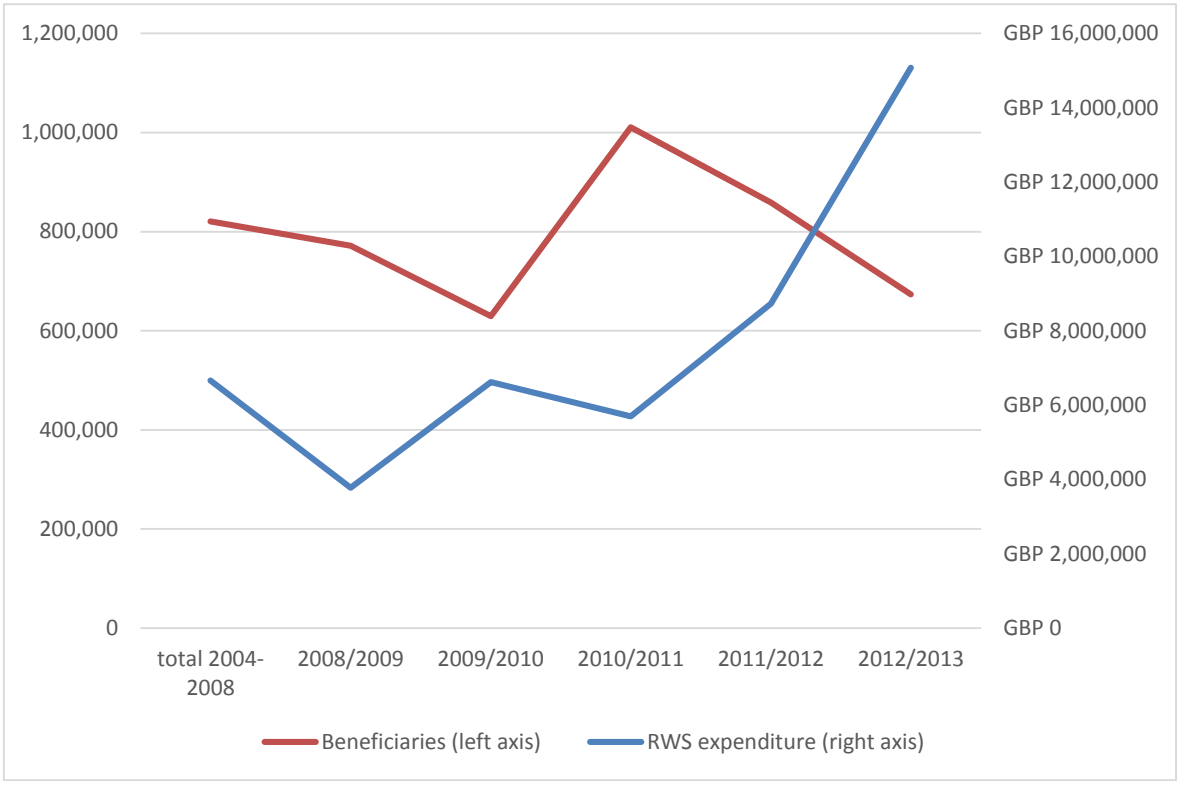
	Avg 2004-2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	Avg 2008-13	Avg 2004-13
Indirect Programme Support	1.53	0.50	1.94	2.12	1.04	0.78	0.92	0.95
Direct cost	6.59	4.39	8.47	15.53	10.45	17.22	9.17	8.85

Source: Authors, using WSSP annual reports. Yellow bars denote averages, at the left-hand end for 2004-8 before DFID joined, and the right-hand end for the DFID-funded period. Costs are adjusted for inflation and exchange rate variations (year base =2008)

As can be seen, there is significant variation across years. There are strong reasons to believe that outputs are not being reported in the exact same years as the majority of the expenditure was incurred, which is not uncommon for this kind of analysis. In particular, 2010/2011 and 2012-13 are anomalous. As can be seen in Figure 20 below, there was a strong increase in expenditure in 2012/13 but a decrease in reported beneficiaries.[28]

[28] It is possible that some outputs (and therefore beneficiaries, from which these are calculated) were reported in 2011/12 or 2013/2014 when they should have been reported in 2012/13. Alternatively, the outputs from some of the 2012/13 expenditure may still not have been realised. This demonstrates the weaknesses of WSSP M&E systems.

Figure 20. Beneficiaries and expenditure over time (2004 – 2013)



Source: Authors, using WSSP annual reports. Costs are adjusted for inflation and exchange rate variations (year base =2008)

Therefore, it is preferable not to draw conclusions from the annual data but instead focus on the overall averages. Given the uncertainty around the data, it is better to focus on the average figure for the whole programme from 2008 - 13, which is GBP 10.12 per beneficiary.[29]

These findings can be compared to the capita unit costs contained in the UAP and OWNP documents for schemes of different technology types in order to investigate whether the findings are realistic and whether planning was accurate. The UAP is right to point out that these should be used for determining overall financial requirements and that project-level planning should be done on a case-by-case basis. The OWNP also points out that these vary significantly across regions and contexts. One beneficiary from a 250m deep borehole in Somalia region is much more expensive to serve than someone served through a hand-dug well in Amhara.

[29] A potential conclusion, not fully justified because of the poor quality data, is that the earliest years of the programme were more cost-efficient, which is counter-intuitive since the activities at that time were mostly capacity development, and the programme had not yet reached scale. However, it is possible to see a trend away from basic technologies (e.g. spring, hand-dug well, shallow well) and towards more complex technologies (e.g. Rural Piped Schemes (RPS)) as time goes on. It is possible that an increased focus on these larger schemes later in the programme is increasing the unit costs.

Table 12 - Unit costs for planning from UAP

	Low tech[30]	Med tech	High tech	overall
Unit cost per capita in GBP	7.8	15.02	15.52	
Weight by WSSP beneficiaries by technology type	48%	21%	30%	
Weighted average unit cost (UAP)				£11.68
Average unit cost calculated by the VFM analysis				£10.12

Source: UAP

By weighting the technology types by the beneficiaries achieved from the different technology types, the unit cost in GBP implied by the UAP for the eventual WSSP programme mix was calculated. As shown in the table above, the calculated average unit cost is actually slightly lower than that predicted by the UAP.

However it cannot be concluded from this that the WSSP was more cost-efficient than planned, for two reasons. Firstly, as mentioned above beneficiary counts are not very reliable given that they are based on assumptions per type of technology – an endline survey would most likely find a lower figure. Secondly, there are many missing costs that have not been captured, as set out in earlier sections, especially programme support costs outside the programme budget (such as those related to the running of MOWIE centrally). All of these factors would push up the calculated unit cost to around the UAP average cost. The likely conclusion is therefore that WSSP was cost-efficient in the sense that it probably met its unit-cost target, subject to strong concerns about data quality.

We have included a separate case study of rural water in the Amhara region included as Annex E. We were able to get more detailed output and expenditure data for that region, and discuss the data with government staff and consultants.

5.2.1.2 Construction of urban water schemes

Efficiency

Efficiency for urban water schemes can only be assessed in terms of the programme's ability to reach targets for the construction of town water supply schemes. The key data was already presented in section 4.2.1.

The ICR (MOWE, 2013, p.38) concludes that "Weak performance of the contractors and inadequate supervisions from the consultants contributed to delay in the implementation of the urban water supply projects". Most of the planned activities of the participating towns are lagging and the majority of towns are stuck at step two and only few progress have been made towards completion. The main reasons for this among others are lack of available funding, lack of adequate capacity building, skill and experience of the water boards and implementing agencies, lack of skilled and well experienced consultants or TSGs and

[30] The UAP is not specific on which technology types are allocated to which categories, so we have assumed: low: springs and hand-dug wells, medium: shallow wells & others, high: deep wells and rural piped schemes

management problem, all of which attributed to inadequate planning and implementation capacities of the participating towns.

There is no explanation however why this has affected medium towns more than small towns. The stepped approach was a key component to the programme's efficiency to build capacity before construction started. With this approach, the Town Water Boards were provided support only after demonstrating ownership and capacity to plan, implement and manage their water supply and sanitation schemes. The impact of the capacity building seems to be not fully satisfactory. Yet, the WSSP has guided the towns to implement reforms which are likely to help them to gradually reach to a stage to be able to access commercial finance to allow them improve WASH service levels and quality. These reforms are to:

- expand their revenue base;
- improve efficiency by automating bill collection;
- reduce the amount of unaccounted water by training/developing the skills of both the utility staff and board members; and,
- support the preparation of a medium and long term business plans.

No evaluation of town water supply schemes funded by the programme has been conducted so far to assess the impact of the WSSP stepped approach. The utility visited in the town of Marawi (Amhara) had a well-functioning spring water supply system (although the first system delivered was malfunctioning and contractors had to fix it). Similarly, the town water boards in the two WSSP-supported small towns visited by the Capacity-building evaluation team appeared reasonably well-functioning and appreciated all the training and support they had received from the Town Support Group (TSG).[31]

Cost efficiency

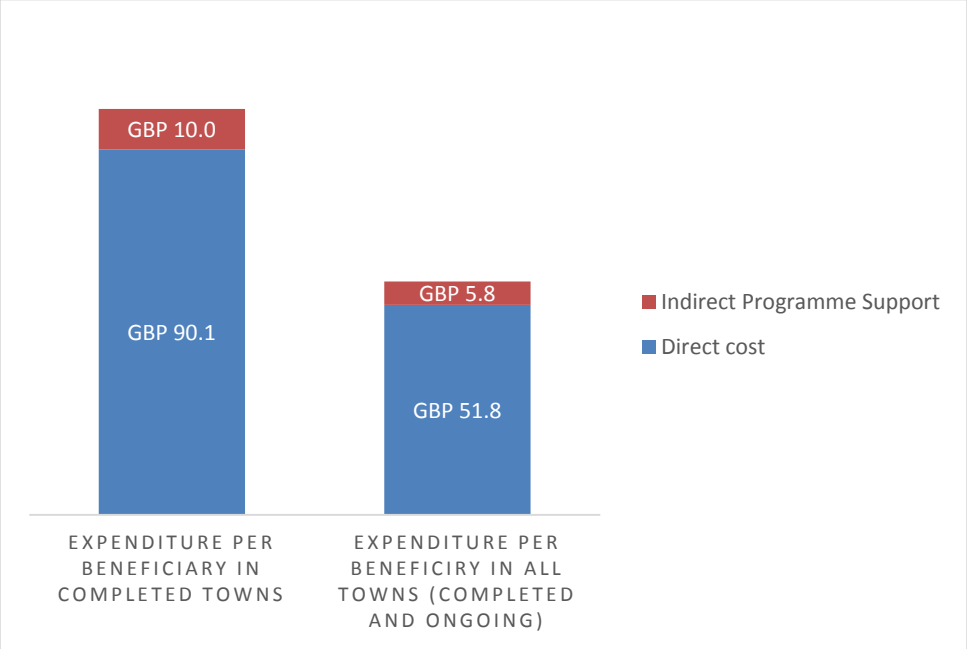
The expenditure per beneficiary of urban water supply schemes lies between GBP 58 and 100. These figures were calculated based on the programme total direct expenditure (hardware and software support) and indirect programme support expenditure allocated to urban water from 2005 to 2013. This includes spending that has been made on towns for which constructions have not yet been completed, but excludes spending that remains to be made to complete town schemes. Thus the total expenditure was divided by the total number of targeted beneficiaries (1.53 Million) and the number of beneficiaries in completed towns (896,966). The allocation of direct and indirect cost is presented on the figure below.

This figure does not include the government contribution. Based on this data, it is not possible to assess the cost efficiency of the urban component of the programme. The figure is very likely to be an underestimate, probably because the number of beneficiaries is overestimated for the reasons presented in section 4.2.1 above. Cost per beneficiary will vary according to the size of the scheme and the number of beneficiaries but it was not possible to conduct this analysis as data was not available. Assuming that all towns are finished within the original budget, as is suggested in the ICCR, a unit cost of GBP 59 per

[31]Town support Groups are teams of consultants hired by the regional WASH bureau to provide support and training to towns. They were hired at the beginning of the programme and were composed of a team of 4 persons.

beneficiary (in real terms) is slightly higher than the GBP 40 implied by the OWNP document.[32]

Figure 21. Expenditure per beneficiary of urban water supply schemes (for small, medium and large towns)



Source: Authors, using WSSP annual reports. Costs are adjusted for inflation and exchange rate variations (year base =2008)

The estimated expenditure per beneficiary is above the target set in the Program Implementation Manual (Updated in July 2008), which indicated that towns could apply for grant assistance under the project for overall investment of up to USD 40 per capita (around GBP 24 with the current exchange rate).

In the town visited in Amhara, the scheme cost increased because of a poor initial design. The regional consultants who designed the scheme had not taken into account the hydrology of the area and had to re-design the schemes. This also raises the question of the quality of the consultants training.

5.2.2 Rural Sanitation outputs

Efficiency

As mentioned is section 4.2.2, there is not data available on the construction of household latrines. Constructing household latrines was a condition for communities to receive a grant for water supply. However this cannot be verified as no data is available.

As shown on the graph below, results for institutional sanitation vary between regions, but are poor overall. Opinions converge to say that sanitation was not a priority of WSSP. One

[32] The OWNP gives figures by population in Table A2, with unit costs decreasing as town population increases. The national average is presented as USD 64, which is about GBP 40.

reason for this was that no funds were earmarked in budgets for sanitation. It only represented 3% of the total spending (although this does not include the government expenditure for health workers, including DFID's support to that through PBS).

According to the Capacity Building evaluation (2013), the use of the HEW in sanitation and hygiene promotion has been effective in reducing open defecation. But it appears that the WSSP only provided limited training for HEWs on sanitation and hygiene promotion, so results can only be attributed to a limited extent to WSSP, as the capacity building was mainly provided by other programmes.

Cost efficiency

No detailed data was available to conduct a cost-efficiency analysis of the rural sanitation outputs.

5.2.3 Urban Sanitation outputs

From the information available, it is not possible to assess whether the access to improved sanitation has increased in the WSSP supported towns, as a result of the development of sanitation plans.

5.2.4 Rapid assessment of the efficiency and cost efficiency drivers

In addition to the efficiency drivers mentioned in the sections above, other programme management design elements or external factors are likely to have positively affected the implementation of all components of the programmes. Although no causality can be drawn on their actual impact on implementation, they are highlighted in this section as potential drivers of efficiency.

Drivers of efficiency

The WSSP adopted a **stepped approach** for both the urban and rural component with a **strong capacity building component** in the first phase of the programme (2004-2008) to enhance efficiency of the implementation. Although the overall achievement of the capacity building cannot be determined accurately due to the lack of reported data on the issue. The Capacity Building evaluation[33] reorts that the programme has been effective in building the capacity of the water boards, utilities, and Woreda WASH teams it supported. The programme used a cascaded approach to training, where international consultants train national consultants, and national consultants train regional consultants, which had significant positive impact on efficiency. However, for both the UWSS and the RWSS components it was problematic that most training from the support groups was concentrated on the first 2-3 years of the programme and that the time-based contracts of the WSGs and TSGs expired before the construction started. Several stakeholders thus reported that capacity building is much less systematic and effective now than it was during the first years of the programme and that the need for capacity building is still high. **Therefore the actual**

[33] P31-32, Helle Stolz, Getachew Abdi and Yemarshet Yemane (2013) Evaluation of WASH Capacity Building Interventions in Ethiopia

impact of the stepped approach and capacity building component though the Support Groups is likely to have been weaker than initially envisaged.

Building capacity at decentralised levels has overall been a challenge affecting the efficiency of programme implementation. The high turn-over among staff at all levels of programme implementation has negatively affected the implementation of WSSP.

In addition to weak capacity at decentralised levels, the efficiency of the programme was affected by **poor procurement and financial management**. This has caused delays in project implementation, as works only really started to scale up in 2008. But the financial management capacity is reported to have improved, as a result of the training provided and after funds are transferred directly from MoFED to BoFED to WoFED. (Capacity Building Evaluation, 2013).

There are three other potential structural reasons for this:
First, the delays in procurement were due to **delays in receiving their budgets** from the higher levels of administrations (regions from Mofed and woredas from regions).

Second, the **shortage of foreign currency at federal level** delays international procurement. The federal government converts the grant received from donors in foreign currency into ETB and uses the foreign currency for other purposes.

Third, the **World Bank procurement procedures** were initially quite complex and required an authorization from the WB to conduct international biddings above small thresholds. These procedures were simplified somewhat.[34]

Drivers of cost-efficiency
One key driver of the programme cost efficiency relies on the **efficiency of management**. Overall the programme management costs represent 9% of the total project expenditure. This may be underestimated for reasons mentioned above (See section 4.1.1.) This figure can be compared to other WASH programmes in Ethiopia collected by the Capacity Building Evaluation report (2013), as shown in the table below. However there is a risk that the "programme management" costs category was defined differently between programmes.[35]

[34] One of the results of this is that the procurement threshold for the four regions of Amhara, Oromia, SNNPR and Tigray was increased in the middle of 2012 due to increased regional procurement capacity. This has meant that these four regions are able to make quicker procurement (although the procurement officer in Amhara complained about not having received the authorisation to procure electro mechanical equipment at international level for the past 6 months).
[35] There is no indication as to what elements of total investments different programmes have allocated to the "programme management" cost category (and whether this includes capacity building as well).

Table 13 Comparison of Programme Management Costs

Programme	Programme Management Costs as % of Total Investment	Source of Information
IDA/DFID WSSP (rural and urban)	9%	Authors
AfDB RWSS Programme	15%	Programme Coordination Unit at MoWIE
COWASH (rural)	20-25%	COWASH staff
FINNIDA RWSS Programme, completed	>30%	COWASH staff
Multi-village Schemes, NGOs (average for three rural schemes), completed	24%	Estimated based on "Background Information and Existing Situation Analysis Report for Community Managed MVS" by Defere E. and Tsigae T., 2004
Average for 35 NGOs in 2011/2012	Capacity building: 10% Administration: 14%	NGO Activity Report, 2011/2012

Source: Adapted from Helle Stolz, Getachew Abdi and Yemarshet Yemane (2013), Evaluation of WASH Capacity Building Interventions in Ethiopia (p.38), based on information collected from programmes.

These figures seem to be estimates rather than based on actual accounts according to the report (Stolz and al, 2013). Furthermore, the WSSP figures cover both rural and urban WASH while all the other programmes focus on rural WASH. The costs of improving water supply infrastructure are normally considerably higher in urban areas than in rural areas. The proportionate part of the total funding needed for programme management may therefore often be lower for urban WASH than for rural WASH. No conclusions can therefore be drawn from a comparison of the proportionate allocation of funding for programme management. The figures do, however, indicate that proportionately the WSSP has used much less than other WASH programmes for programme management (9%). This is not surprising as it does not include government staff salaries. The completed FINNIDA RWSS programme has allocated proportionately most funding to programme management (> 30%), while other programmes range from 15% (AfDB) to 24% (NGOs).

Finally, no conclusion can be made on whether the programme has or not been successful at **leveraging external sources of funding after 2008**. It is clear that before 2008, WB funding contributed to attract DFID investments in the programme. After 2008, there was no additional donors, and there is no data available on this, but according to interviews, communities seem to have contributed 5% or more to the construction cost in cash and or in-kind during the construction phase of the water schemes. No data is available on household expenditure on sanitation, although this seems to have been limited[36]. In the woreda and region visited they had been no matching fund from decentralised levels of government. The government contribution in salaries and operational cost is likely to be significant but is

[36] The latrines we saw in communities visited were traditional improved latrines built with collected material (wood, branches etc.)

unquantified[37]. Moreover, the GoE is likely to have contributed to hardware costs in several regions where implementation costs exceeded donor budget. In Amhara, as town schemes cost more than expected because of their bigger size and increase in cost of contracts and materials, the GoE paid for the extra spending. In the town visited, there was also a government matching fund of 15-20%.

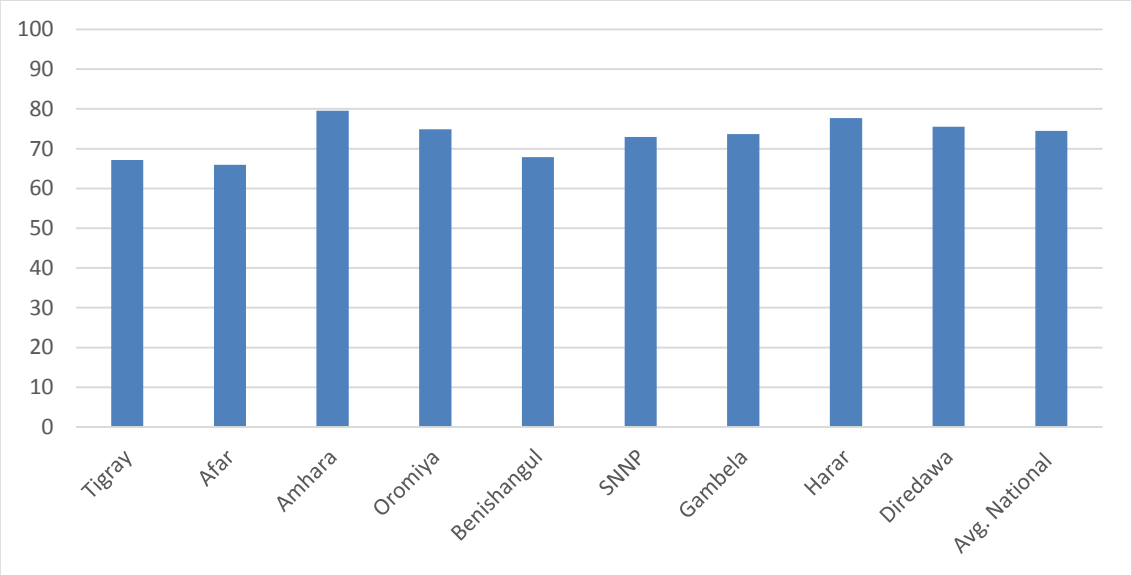
5.3 Effectiveness and sustainability

As discussed in the outcomes section above, it is impossible to calculate effectiveness and cost-effectiveness indicators due to the lack of outcome data in the form of a baseline or endline survey. OPM's household survey in Ethiopia under Obj2 of the VFM-WASH project may help us to some extent, when the data becomes available in early 2015. For the moment, therefore, our analysis of effectiveness must be qualitative only.

Effectiveness is about turning outputs into sustained outcomes, i.e. are the intermediary outputs (e.g. wells) and full outputs (e.g. estimated beneficiaries) delivering the outcomes they are supposed to (e.g. people using improved water source) – and delivering them over time. In the absence of data, the analysis relies on published reports and key informant interviews for this assessment.

On the RWS side, there are a number of reasons why expected beneficiary counts (full outputs) may not always deliver the outcomes which are implied. The functionality of installed rural water schemes remains an ongoing challenge in Ethiopia. Figure 22 below shows that functionality at time of survey ranges between 60% and 80% by region, with an average of 74%.[38] This is not unusual for rural Sub-Saharan Africa, based on recent Water Point Mapping evidence. No data is available on the reliability (functionality in the short-to-medium term) of the water points.

Figure 22 – percentage functionality of rural water supply schemes by region (2011)



[37] This is unlikely to be quantified through this research, as only sample data on salaries and number of personnel is available. As the level of spending may vary between regions, such estimates would not be very significant.
[38] This was collated by the National Water Inventory during inventory data collection in 2011 when enumerators visited all water points in the country.

Source: NWI data

With regard to rural piped schemes and deep wells, there are often challenges related to management of the schemes. Whether from a spring or deep well source, they usually require electricity or diesel to function, which is not always available. In addition, the cost of fuel (which is rising fast) represents an extra cost which community contributions cannot always cover. It is not unusual for government institutions to cover some of these costs, which is not a sustainable solution.

The operation and maintenance (O&M) of RPSs is far more complex than for basic infrastructure, meaning that communities are unable to manage them. The issue of WASHCO members being volunteers is also even more relevant here because the time involved in managing an RPS is more significant than a low-technology option such as a hand-dug well.

An evaluation of Capacity Building Interventions conducted for DFID (Stolz et al. 2013) notes that the Woreda Support Groups contracts expired before construction began, but suggests that this didn't cause too many problems for point sources. On the RPS side, however, they observe that the regional bureaus have not involved woredas or communities sufficiently during planning, leading to poor ownership. Poor construction quality was also highlighted as a problem. All of these issues are not uncommon across rural water supply in developing countries, but should receive particular attention in the future to increase effectiveness, e.g. to ensure the WSSPs outputs are to be translated into sustained outcomes.

6 Overall analysis of WSSP and recommendations for OWNP

This section sets out potential ways forward to improve the VFM of the future OWNP by influencing the programme design, based on lessons learned from WSSP. The first step will be to ensure that the adequate programme management tools are set up to be able to calculate the VFM indicators.

The recommendations are divided between (i) recommendations for improving programme management (so as to better measure and manage performance in terms of Value for Money), (ii) recommendations for improving VFM and sustainability. The former are directly informed by the experience of our quantitative and qualitative operational research. The latter are primarily based on existing evaluations of WSSP (e.g. the ICRR and the DFID evaluation of capacity development) and the views of key informants, since we had limited time in-country and the aim of the VFM analysis is not to do a full evaluation of the programme.

A summary of the recommendations is presented in the Table below.

Table 14. Summary of the recommendations

Areas	Recommendations
Improving programme management tools (based on our research)	• Develop contract management tools and improve oversight and accountability in the contracting process • Develop a more detailed financial reporting format that would allow allocating inputs to intermediary and full outputs • Develop a central management system that would compile data from regions and track jointly inputs and outputs so as to track VFM indicators that could inform management decisions. • Strengthen the NWI to provide sector wide data on outputs and outcomes that could be used for VFM analysis
Improving the VFM and sustainability of the programme (based on existing evaluations and interviews)	• Reinforce programme management and through better coordination, planning and financial management • Improve procurement by analysing different types of contracts for construction (turnkey contracts versus procurement by lot) • Foster private sector development in the WASH sector • Improve the design of the rural water component • Improve the design of the urban water component • Strengthen focus on sanitation and software interventions

6.1 Improving programme management tools

OWNP programme managers could apply the methodology developed for this VFM analysis to monitor the VFM of the programme on an ongoing basis and use findings to improve management. This section formulates specific recommendations on how to design OWNP's management tools, so as to collect data on VFM and sustainability and improve focus on these issues. As noted above, management systems of WSSP were not integrated and therefore did not allow forming an overall vision or tracking programme performance on an ongoing basis. This would need to be revised for OWNP.

6.1.1 Develop management tools to improve tracking of expenditure and monitoring of contracts

A crucial analysis to allow estimating VFM indicators is the recording and financial analysis of contracts let by the programme, to allow directly allocating expenditure to water and sanitation outputs and outcomes. But programme management tools of WSSP were not strong enough to enable a sound management of contracts and finance.

First, the financial reporting needs to be improved to allow reconciling inputs with outputs. The cost categories that were re-defined in June 2010 to include Woreda Grant for water supply, Sanitation grant and town grant, do not allow separating hardware and software, not distinguishing between the type of outputs set up in towns and woredas. In order to be able to do a VFM analysis for the OWNP, the following elements would need to be introduced in the financial reporting.

Then, a MIS should be set up to record contracts expenditure on a regular basis by type of outputs. This would be a key element to manage spending more efficiently and collect data for the VFM analysis in the future. At present, regions use different format to record contracts and consolidation is not done at federal level.

In order to track contracts, we recommend doing the following for OWNP:
- Create activity codes to record spending on contracts by type of outputs
- At decentralised level, compile in one management tool the type of contracts that are let out by type of programme outputs with their disbursement plan. The different types of contracts are stated in Table 3 above, together with the entities responsible for procurement. This database should be consolidated from regions on a regular basis.
- Update monthly the management tool with the information on the actual disbursements made by activity codes (as reported by the regional Bofed to Mofed). This will be facilitated in the future as MoFED is implementing at all levels of government an integrated budget expenditure management system (Oracle).

6.1.2 Strengthen NWI to become a sector MIS for outputs and outcomes

The current challenge is to create a system that is both trusted and reliable, but also immediately useful to those who need it most, that is, staff making decisions at the woreda and regional level. **Data collection on both outputs (regularly) and outcomes (less regularly) should be scheduled and continue to be collected over time.**

The NWI represents an excellent start towards the development of a comprehensive M&E system for the sector. Currently it is only a cross-sectional snapshot of the situation in 2011, with no current plans for updating the data and making it immediately useful for management decisions over time. However, the NWI does have the potential to develop into a Management Information System (MIS) for the sector. There are plans to make this a reality under the OWNP but it will require substantial investment and political support behind it.

As a medium-term objective, the NWI should be integrated with public financial management systems to ensure that inputs can be connected to outputs as far as possible.

6.2 Improving VFM and sustainability of the programme

This section set outs recommendations to improve the VFM and sustainability of the programme.

6.2.1 Strengthen programme management processes to improve planning and coordination

At federal and regional level, processes need to be put in place to enable strategic planning for OWNP. The MIS used for WSSP needs to be improved so that data can effectively be used to guide decision making. Moreover, the processes and timing of budget execution need to be revised to allow for timely disbursement of funds to woredas, based on the plans proposed.

Coordination between regional and federal levels needs to be improved by setting up processes for the OWNP. For instance regional results' reports of the WSSP were not systematically sent to the federal level[39]. The view at MOWIE was that only the aggregated information is available or useful to them, but more disaggregated information would clearly facilitate programme management. The information collected from regions does not appear to be used at federal level for strategic planning but only for monitoring of progress against high-level targets. According to the principles of decentralisation and subsidiarity, implementation decisions are and should be taken at the regional level. However, in order for MOWIE to fulfil their overall strategic planning role, tools with a common format and data retained in disaggregated form need to be used at the federal level. This is particularly important for the OWNP. In addition, this would facilitate future VFM analysis as mentioned in recommendation 7.2.1.

Coordination between the water, health and education departments at regional level and ministries at federal level should be improved. Data on results were not consistently shared between departments in WSSP. For example, household sanitation lies between the responsibilities of the Health bureau and the Water bureau (who hired WSGs including a sanitation expert to conduct community mobilisation), but neither bureau at the regional level in Amhara had data on sanitation results in a useful format for assessing programme performance or informing decision-making.

At woreda and town level, WSGs and TSGs play a key role in supporting the planning and management of programme implementation. Their role should be maintained in the OWNP and their contracts set for the duration of the programme. Actions need to be taken to re-hire them as soon as possible[40], in the same or similar form, in order to facilitate OWNP implementation, so as to reduce the loss of capacity and transaction costs. Staff turnover in general (including consultants and permanent government staff) hinders the efficiency of capacity building. **Incentives need to be provided to staff so as to encourage them to remain in post for a longer period.** Regional consultants need to supervise woredas when there is a change in staff so as to ensure that new staff are appropriately trained. **Capacity building activities need to continue and targeted during OWNP so as to strengthen implementation capacity at all levels, especially in woredas**.

Many of these issues could be improved by reconsidering programme management and reporting arrangements, and strengthening the use of data in decision-making.

6.2.2 Improve procurement processes to reduce unit costs

Procurement needs to be improved through strengthening the capacity of procurement staff and a simplification of procurement rules.

The programme should also consider the possibility of increasing the VFM of construction contracts by undertaking a comparative analysis of different types of

[39] We were only able to obtain one regional implementation completion report for the WSSP and that was from the Amhara region directly

[40] WSG and TSGs were dissolved at the end of WSSP implementation in most regions.

contracts. For example, "turnkey" contracts refer to the bundling of materials and labour contracts to one contractor, who then sub-contracts out the other elements. In this case, it also refers to bundling together the siting, drilling, civil works and installation of mechanics for a water supply scheme for instance. Some sector stakeholders argue that turnkey contracting would enable stronger control over prices than individual contracts. Experience from UNICEF in Mozambique shows that bundling together siting and drilling in turnkey contracts enable transferring the risk of negative drillings to the contractors.[41]

The "Bottlenecks to Private Sector Engagement" study that DFID/UNICEF will be undertaking as part of the start-up of the ONE WASH programme will be crucial to analyse the advantages and disadvantages of different contracting procedures. For example, private drilling contractors currently bear little of the risk for dry boreholes, and contracts could be better designed to share this risk across more stakeholders. However, care needs to be taken to avoid the opposite problem, i.e. excessive risk being pushed onto the private sector to the extent that there are too few bids or prices are inflated. They would also need to be in line with the government procurement rules.

6.2.3 Improve engagement with the private sector

At present there are few companies active in the WASH sector in Ethiopia. **Increasing supply could create more competition in the market and drive cost downs.** The government tends to encourage small-scale artisans to form "private companies", but these retain strong links to government personnel which reduces fair competition. Few competitors are actually genuinely private companies in the strictest sense.

Moreover, there is a limited offer of drilling services and they tend to focus on high-cost and deep-drilling technologies. There is a demand for lower cost technologies such as small drilling rings but they are not supplied in the market to the extent that they are in other countries in the region such as Uganda and South Sudan. **Procurement for OWNP could be redesigned to favour low-cost drilling technologies, which would support private sector development in this area.**[42]

6.2.4 Improve the design of the rural water component

Efficiency and effectiveness in the RWS sector could be improved with some changes to programme design.

Increased involvement of the Woreda Support Groups (WSGs) during project implementation to support Woreda WASH teams (WWTs), and in general capacity development of WWT staff, would help to increase the efficiency of the programme. Several sector stakeholders believe that the WSGs were not used enough during the WSSP. For example, inadequate siting of hand-dug wells by Woreda WASH teams (WWTs) is known to be a significant factor in poor levels of sustainability. WWTs do not always have the necessary skills and experience to carry out proper siting and would require more support from WSGs.

[41] "Impact evaluation of drinking water supply and sanitation interventions in rural Mozambique" Mid-term impact evaluation, Unicef (2010)

[42] In addition, much of the capacity in the drilling market is swallowed up by the irrigation sector. Much of this is unnecessarily used – for example, of the boreholes drilled for irrigation, only around 20% end up being used, because farmers cannot afford the operational costs. If part of this drilling activity could be reoriented from the irrigation sector to the WASH sector, this could partly solve the shortage of drilling contractors. This would require more coordination within different departments of MOWIE.

With regard to rural piped schemes (RPS), **the management of the schemes by WASHCOs would need to be revised.** Greater incentives for WASHCO members to take care of the O&M (such as creating a paid position of RPS manager), alongside increased back-stopping by woredas and regional staff, would increase the level of sustainability of RPS schemes. However, such increased involvement of the woreda and region should not be at the expense of ownership, to the extent that meeting these dual objectives is possible. More post-construction support for WASHCOs, on a managerial as well as technical level, could therefore contribute to increased effectiveness.

6.2.5 Improve the design of the urban water component

Given the poor amount of detailed data available for VFM analysis, it was difficult to carry out much meaningful analysis for urban water, which further complicates providing recommendations. Most stakeholders seem to agree that the stepped approach has had a positive impact on programme implementation in recent years. However, there is little M&E data available to investigate whether this optimism is justified. For example, the MOWIE and ICRR only report on the stages cities have got to and the number of beneficiaries, and focus less on the level and quality of service.

Perhaps at the utility level there is data on scheme functionality, hours of supply per day, level of cost recovery and affordability of tariffs for the poor etc. However, this is not available at the regional or national level. It is therefore difficult for programme managers at these levels to advise utilities and water boards.

The stepped approach should clearly be maintained, given the high level of support it receives, but further data on service levels and utility effectiveness need to be collected and used by programme managers. In particular, there could be an increased focus on assessing the pro-poor effectiveness of utilities. Anecdotally, there seems to be more focus on private connections than on improving service quality for all. For example, many utilities expansion plans have not focused on providing a basic service to the whole town, but rather on increasing the number of household connections, i.e. service levels for those usually already served. Both are valid policy goals, it is a question of balance. The common problem of poor people paying more per litre at public standposts (twice as much in the small town we visited) than those connected to the network persists in many utilities. Tariff structure needs to be more closely monitored to ensure that services are affordable for the poorest, while allowing for cost-recovery.

One way to encourage more focus on equity in service delivery would be to require utility managers to report on service levels and expenditure on water across different customer groups. Many utilities already have access to this information but do not appear to be using it or reporting on it.

6.2.6 Improve the design of the sanitation component

Given the absence of meaningful ME data on rural sanitation, it is not possible to provide many recommendations on rural sanitation.

The M&E for decision-making in the sector and for OWNP more specifically needs to be improved. The WSSP ICRR and other reports only provide information on institutional sanitation (latrines at schools and health centres) which is only really a small part of sanitation activities in the country. The national sanitation approach is CLTSH, and WSSP has supported this through the Community Facilitation Teams (CFTs) and the HEWs, but few people we interviewed actually talked about this process or indeed how ODF was being promoted nationally.

The coordination between sanitation activities implemented by Health departments and water activities implemented by Water bureaus also needs to be facilitated for the OWNP. At all levels (federal, regional, and woreda) water and sanitation activities are poorly coordinated and information does not flow. It was also reported that it was hard to convene meetings of the WWT because of busy schedules, which was hindering decision-making. Perhaps more priority needs to go into making the WWTs work well, which would thereby increase understanding of sanitation programming across all WASH stakeholders. Part of this is related to adequately monitoring household sanitation, and indeed ODF status, so that these data form part of decision-making at all levels.

Annex A Selection of comparators for the analysis

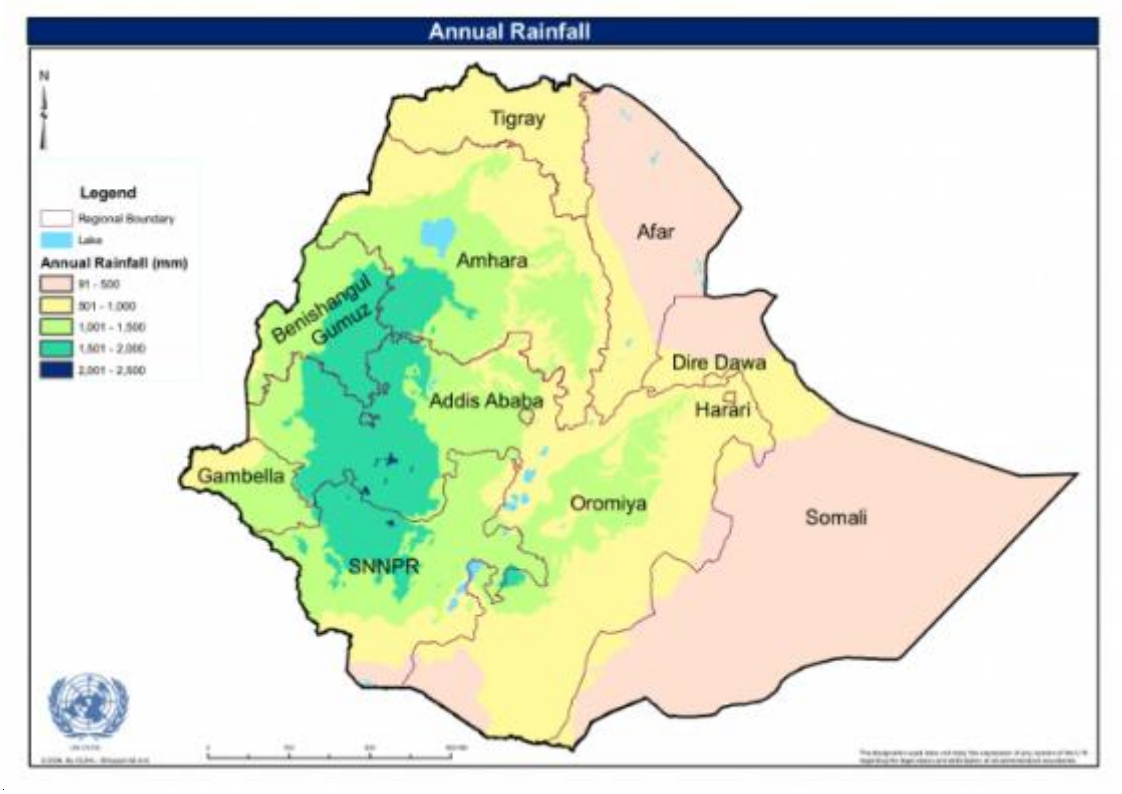
	CoWASH
Description	5 years programme (2011-2016), financed by the Government of Finland and the government of Ethiopia (GBP 30 Million), in 5 regions and 67 woredas
Programme focus: Similar to WSSP?	Partially – Rural Water and Sanitation
Programme approach similar to WSSP?	Partially - The programme implementation is directly done by the communities themselves (Community-managed approach). Funds are channeled directly to communities through MFIs. Otherwise the activities implemented are quite similar
Implementation arrangements Similar to WSSP?	Yes Cowash is implemented through regions and Woreda WASH team.
Interest in being a comparator?	Yes- Strong interest and cooperation from CoWASH Country coordinator
Practical feasibility	• M&E system seems to be quite strong. • We already have a lot of data in excel format, • Unit costs analysis has already been done.
Pros/cons of using it as a comparator	• Pros: Engagement of country coordinator and availability of data • Cons: Going through all their data and studies might be very time consuming
Recommendation	Good potential to include as a comparator

Annex B Additional country context

Ethiopia has the following administrative divisions: regional states (and some chartered cities), zones, woredas and kebeles. Woredas and kebeles are akin to districts and wards in other countries. In the WASH sector, it is the regions and woredas that are the most important levels for programme management. Figure 23 below shows the division into regions, as well as the annual rainfall across the country.

Taken alongside the topographical map in Figure 24, it is possible to draw a distinction between the fertile highlands in the western half of the country and the arid deserts towards the east.

Figure 23 – Map of Ethiopia's regions and rainfall



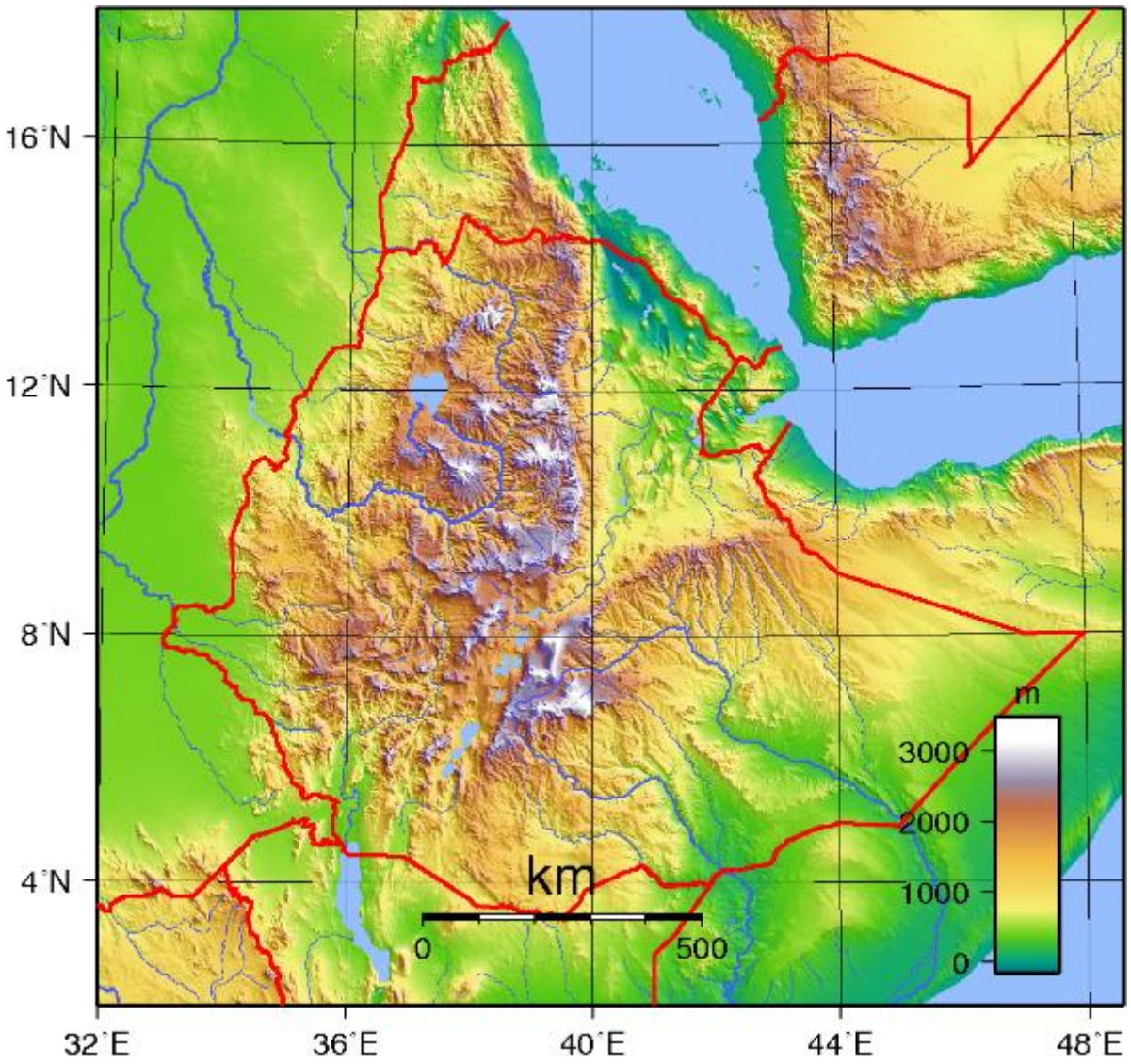
Ethiopia's hydrogeology is complex and at present only partly understood. Basement aquifers, volcanic aquifers and Mesozoic sediment aquifers predominate. The geology is often highly varied and due to tectonic movement areas with very shallow groundwater can be placed alongside rift areas with very deep groundwater.

In several small river valleys, aquifers are in place with groundwater close to the surface, often interacting with river flows. Kebede (2013) and BGS (2010) have studied the availability of groundwater in Ethiopia. The results of relevance to water supply are summarized below:

- 30% of Ethiopia requires very deep boreholes, greater than 100m;
- 40 % of the country has a very low probability (less than 60%) of striking groundwater;
- 35% of the country suffers from saline groundwater and 15 million people live in a high fluoride groundwater area;

- less than 50% of the country has favourable conditions for shallow wells.

Figure 24 – Topographical map of Ethiopia



Annex C Detailed rural water output data

Table 15 – estimated RWS intermediary outputs by scheme type and region (total 2004 – 2013)[43]

	Oromia	Amhara	SNNPR	Tigray	Somali	Afar	BG	Gambela	Harari	Dire Dawa	Total 2004 - 2013
Springs	1,157	1,030	1,120	163	0	0	1	12	2	0	3,485
Hand-dug wells (HDW)	405	2,423	215	507	70	-	81	25	21	0	3,747
Shallow wells (SW)	599	63	368	412	3	31	87	43	11	0	1,617
Deep wells (DW)	133	27	40	4	11	5	0	0	6	0	226
Rural piped schemes (from DW)	97	13	45	4	0	0	0	0	13	1	173
Rural piped schemes (from spring)	96	22	51	1	0	0	0	1	0	0	171
Others	0	105	95	9	59	2	31	15	60	6	382
	2487	3683	1934	1100	143	38	200	96	113	7	9,801

Source: draft ICRR (MOWIE, 2013) – note: the overall total differs slightly from the below table due to ICRR data not fully tallying with Annual Report data.

Table 16 – estimated RWS intermediary outputs by scheme type and year (all regions)

	total 2004 - 2008	2008/9	2009/10	2010/11	2011/12	2012/13	Total 2004 - 2013	Total 2008 - 2013
Spring	606	355	548	1012	720	265	3506	2900
Hand dug well (HDW)	726	776	693	878	433	208	3714	2988
Shallow well (SW)	426	251	154	371	222	168	1592	1166
Deep well (DW)	64	38	35	41	60	7	245	181
Rural piped scheme (DW)	29	34	16	31	30	44	184	155

[43] Nb. only 2004 – 2013 data available in ICCR

Rural piped scheme (spring)	0	33	16	16	46	69	180	180
Others	24	42	31	203	32	42	374	350
TOTAL	1,875	1,529	1,493	2,552	1,543	803	9,795	7,920

Source: calculated from WSSP Annual Reports

Table 17. - Efficiency of RWS intermediary outputs (planned and actual scheme construction), 2004 - 2013

	Oromia			Amhara			SNNPR			Tigray			Somali		
	plan.	act.	%	plan.	act.	%	plan.	act.	%	plan.	act.	%	plan.	act.	%
Springs	926	1,157	125%	1,087	1,030	95%	1,345	1,120	83%	161	163	101%	0	0	-
Hand-dug wells (HDW)	397	405	102%	2,074	2,423	117%	366	215	59%	438	507	116%	85	70	82%
Shallow wells (SW)	536	599	112%	184	63	34%	302	368	122%	417	412	99%	0	3	-
Deep wells (DW)	122	133	109%	82	27	33%	25	40	160%	8	4	50%	99	11	11%
Rural piped schemes (from DW)	121	97	80%	70	13	19%	25	45	180%	8	4	50%	99	0	0%
Rural piped schemes (from spring)	79	96	122%	18	22	122%	26	51	196%	0	1	-	0	0	-
Others	0	0	-	0	105	-	0	95	-	27	9	33%	23	59	257%
Overall	2181	2487	114%	3515	3683	105%	2089	1934	93%	1059	1100	104%	306	143	47%

	Afar			BG			Gambela			Harari			Dire Dawa		
	plan.	act.	%	plan.	act.	%	plan.	act.	%	plan.	act.	%	plan.	act.	%
Springs	0	0	-	13	1	8%	23	12	52%	0	2	-	0	0	-
Hand-dug wells (HDW)	5	-	-	113	81	72%	52	25	48%	82	21	26%	0	0	-
Shallow wells (SW)	30	31	103%	109	87	80%	49	43	88%	20	11	55%	0	0	-
Deep wells (DW)	10	5	50%	0	0	-	0	0	-	6	6	100%	4	0	0%
Rural piped schemes (from DW)	8	0	0%	0	0	-	0	0	-	4	13	325%	0	1	-
Rural piped schemes (from spring)	0	0	-	0	0	-	1	1	100%	0	0	-	0	0	-
Others	30	2	7%	24	31	129%	0	15		38	60	158%	0	6	
Overall	83	38	46%	259	200	77%	125	96	77%	150	113	75%	4	7	175%

Annex D Diagrams showing stepped approach

Figure 25 - Stepped Approach to Rural Water Supply and Sanitation (IDA PAD 2004)

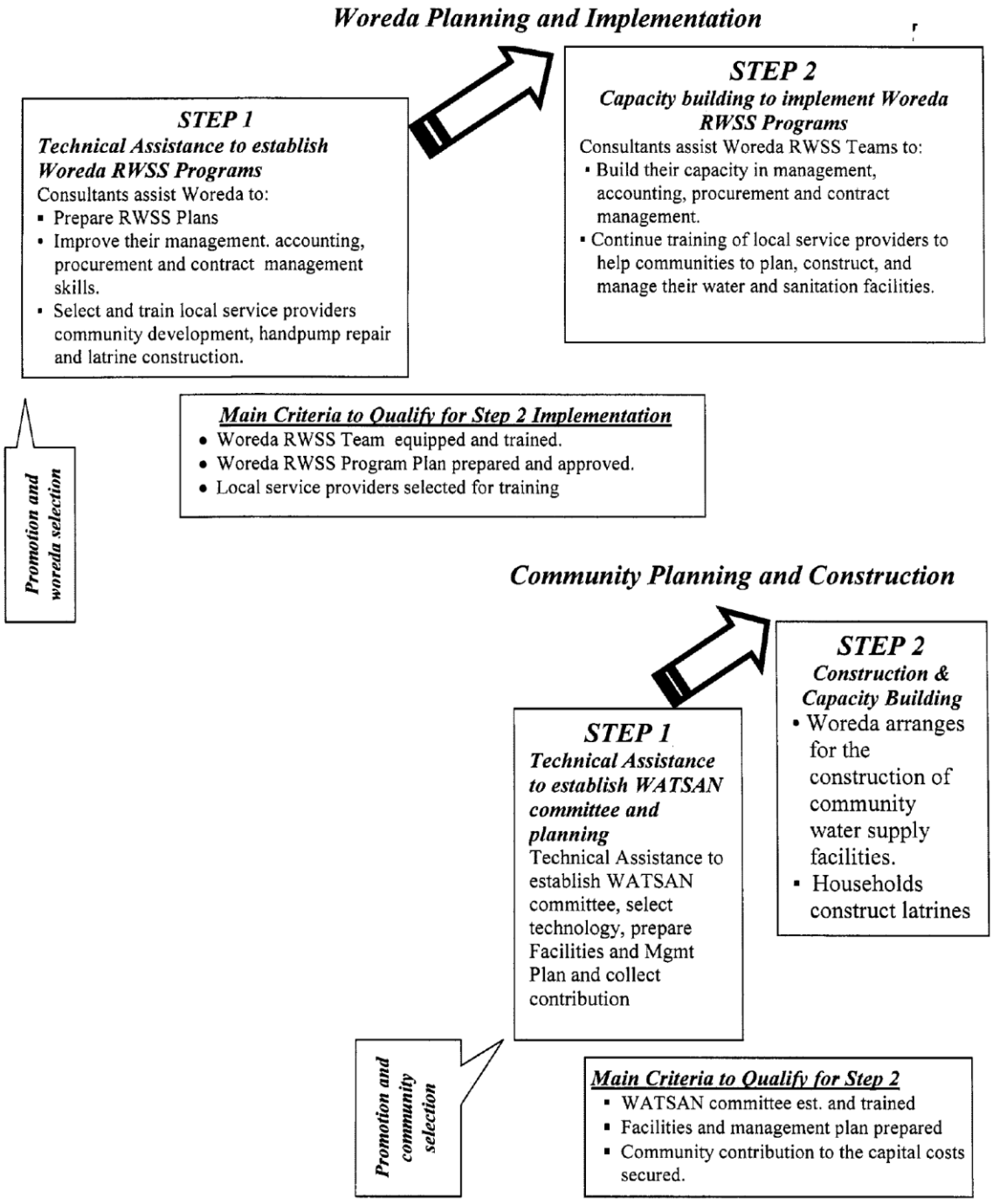
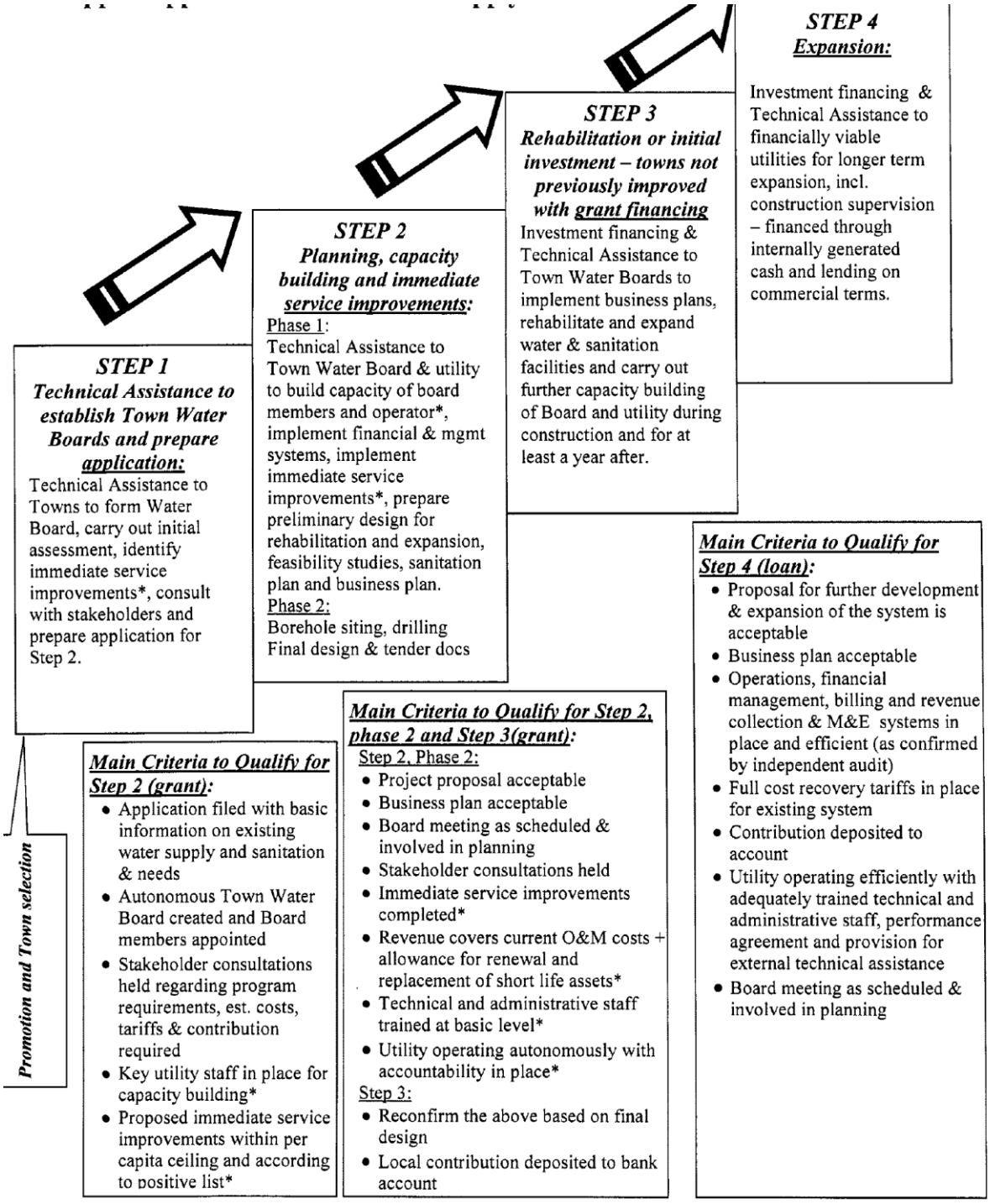


Figure 26 - Stepped Approach to Urban Water Supply and Sanitation (IDA PAD 2004)



Annex E Detailed VFM analysis for Amhara region

This Annex contains the VFM analysis of the rural water component of the WSSP programme for the Amhara region for the period mid-2010 to mid-2013[44]. Given that disaggregated data was only available at regional level and that it was not possible to collect data from every region, Amhara region was selected to conduct a detailed VFM analysis on the WSSP expenditure and demonstrate its value. The components of the Results Chain (types of inputs and outputs) are the same as at national level.

It was only possible to disaggregate the expenditure of the rural water component to match expenditure to outputs so as to be able to conduct the VFM analysis. Therefore this Annexe focuses on rural outputs and VFM indicators, after presenting the overall expenditure of the programme in the region.

E.1 Programme input costs

In total, GBP 31,326,942 was spent for WSSP in Amhara region between mid-2010 and mid-2013. This includes the spending that was made at woreda level (16% of the total spending), regional level (76%) and an estimated allocation of spending made at federal level that contributed to the outputs and outcomes observed in the region (8%). The total expenditure also includes the matching fund from the regional government, which represents 8% of the total funding for this programme. It excludes district governments' contributions (which are not significant).

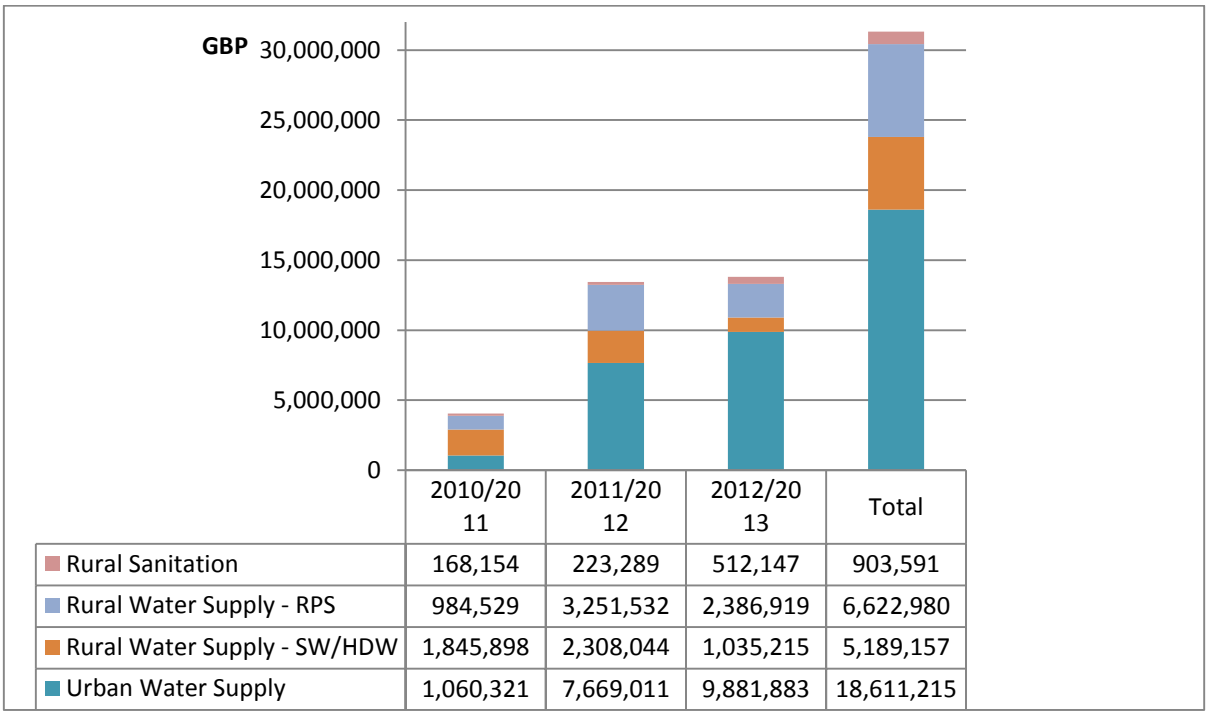
As noticed at national level, there was a sharp rise in the expenditure between 2010/2011 and 2011/2012, but the expenditure remained quite constant between 2011 and 2013, at a level of GBP 13,816,164 per year.

Allocation of programme's inputs by outputs. Figure 27 below shows an estimated expenditure by subsectors.[45] This analysis was based on regional financial reports. For rural water supply it is even possible to allocate spending to types of water schemes (Rural Piped Systems (RPS) and Spring Wells and Hand-dug Wells (SW and HDW)), although it was not possible to disaggregate further these last two outputs. Most of the spending was made on urban water supply (59%), followed by RPS and SW and HDW (21% and 17% respectively, representing a total of 38% for the rural water sector). Like at national level, sanitation has been overlooked and represents only 3% of the total expenditure. The distribution of expenditure per subsectors is quite similar to the one observed at national level.

[44] This corresponds to EFY 2003, 2004 and 2005.

[45] In a similar way as at the national level, the allocation of expenditure to intermediary outputs was made based on estimations of the percentage of a cost category or expenditure on a type of contract spent on an output category. Thus, this can only be an indicative distribution of costs.

Figure 27. Annual Distribution of WSSP expenditure per outputs in Amhara region in GPB (mid 2010- mid 2013)



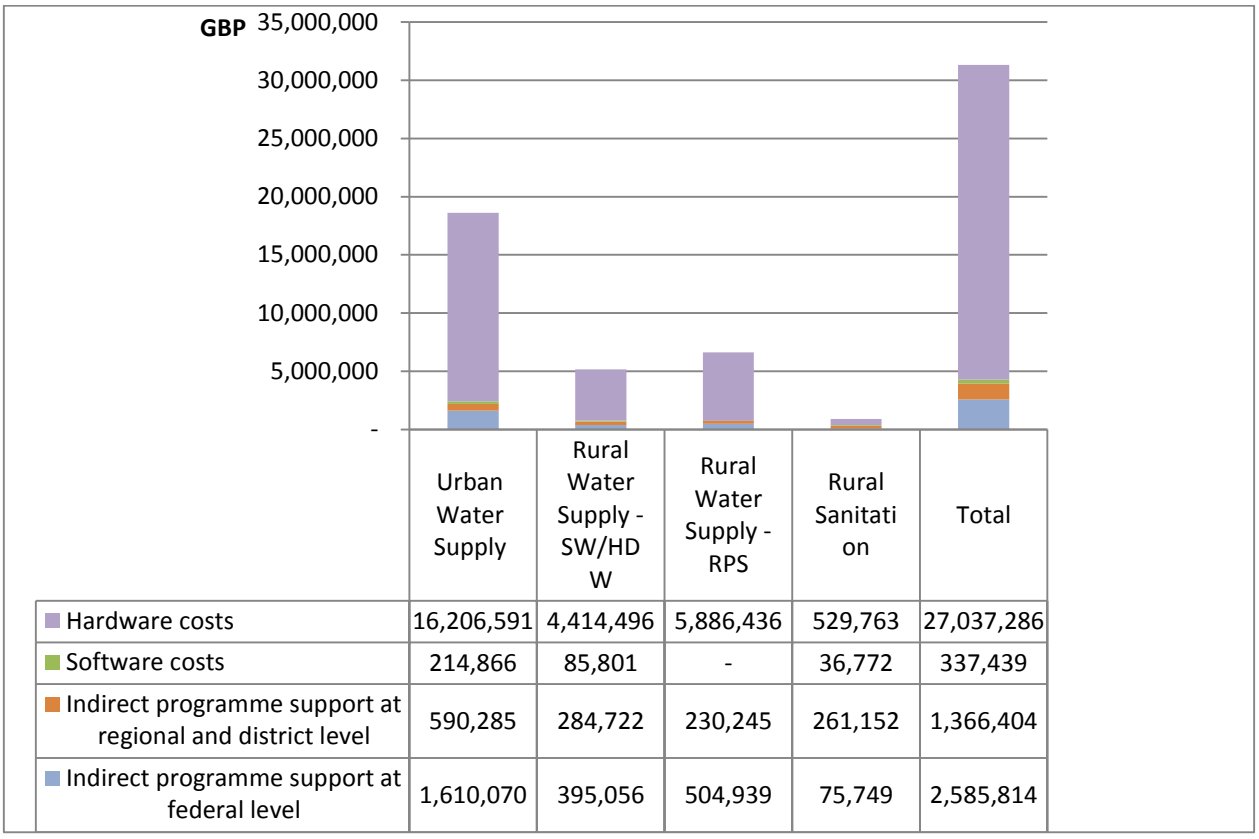
	2010/2011	2011/2012	2012/2013	Total
Rural Sanitation	168,154	223,289	512,147	903,591
Rural Water Supply - RPS	984,529	3,251,532	2,386,919	6,622,980
Rural Water Supply - SW/HDW	1,845,898	2,308,044	1,035,215	5,189,157
Urban Water Supply	1,060,321	7,669,011	9,881,883	18,611,215

Source: Amhara national regional state, Bureau of Water Resources Development (2013), IDA/DFID funded WSSP financial report, using annual exchange rate ETB/GBP

Allocation of programme expenditure per type of costs. Figure 28 below shows that most of the programme spending was made on hardware costs (86%), especially for the water component. Indirect Programme Support (IPS) costs only represented 12% of the overall costs (this includes IPS at woreda, regional and federal levels). This is likely to be an underestimate, as some IPS at woreda level might have been reported as hardware costs.[46] Besides, software costs represent only 1% of the total expenditure. This seems very low, but it can't be justified by miscalculation, only by mis-reporting.

[46] This could be explained by the fact that the "grant" categories in the financial reporting framework were not used consistently in woredas and could include woreda level programme support expenditure. This means that some IPs could be reported as hardware costs. Moreover, the regional governments also provided funding on their own budget to pay for the woreda staff in WASH teams managing the programme.

Figure 28. Distribution of WSSP expenditure per type of cost and output in Amhara in GBP (mid 2010- mid 2013)



	Urban Water Supply	Rural Water Supply - SW/HDW	Rural Water Supply - RPS	Rural Sanitation	Total
Hardware costs	16,206,591	4,414,496	5,886,436	529,763	27,037,286
Software costs	214,866	85,801	-	36,772	337,439
Indirect programme support at regional and district level	590,285	284,722	230,245	261,152	1,366,404
Indirect programme support at federal level	1,610,070	395,056	504,939	75,749	2,585,814

Source: Amhara national regional state, Bureau of Water Resources Development (2013), IDA/DFID funded WSSP financial report

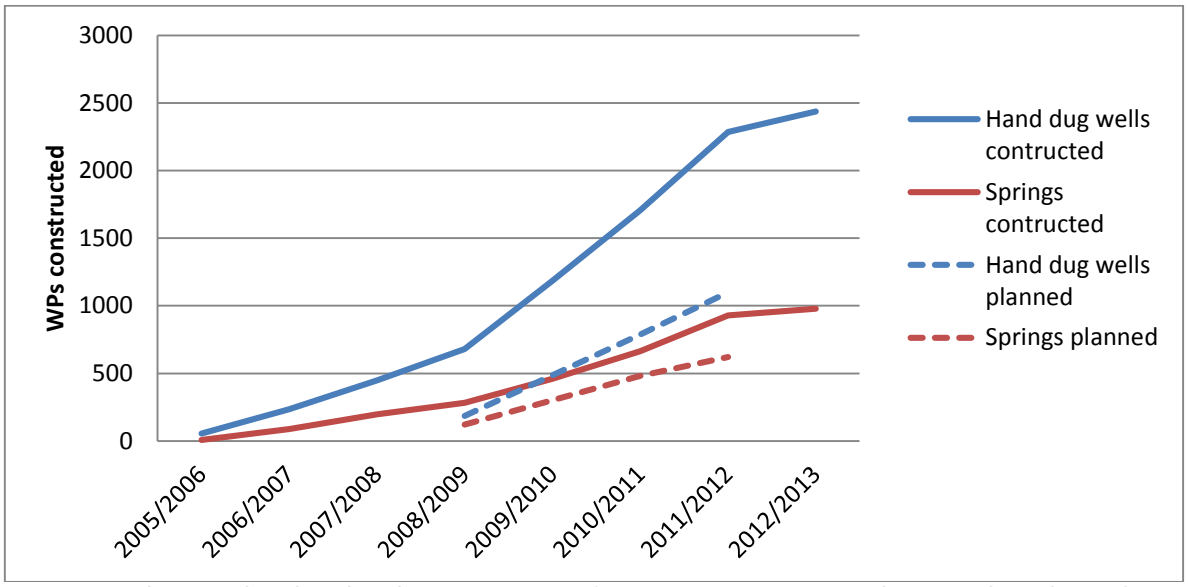
E.2 Rural water outputs

This section summarises for the rural water subsectors the intermediary outputs and the number of beneficiaries reached by the programme in the region.

In 2008 there was a change of plans towards lower cost technologies that can be implemented and monitored by the communities themselves with support from contracted artisans. Thus the main intermediary outputs were hand dug wells (HDW) and spring developments (SPD). Some rural water piped schemes (RPS) with deep and shallow wells were also built.

Figure 29 below shows the acceleration of the programme implementation after 2008. The actual realisations for water points exceeded the plans. In total, 3415 low cost water points (HDW and SPD) and 39 RPS were built between mid-2010 and mid-2013 as shown on Table 18 below.

Figure 29 Cumulative rural water points construction in Amhara in EYFs (Mid 2005 – Mid 2013)



Source: Amhara national regional state, Bureau of Water Resources Development (2013), IDA/DFID funded WSSP Implementation Completion Report

Table 18. Number of water points and RPS built in Amhara (Mid 2010 – Mid 2013)

	HDWs	SPDs	Total (HDW+SPD)	RPS
2003	521	204	725	13
2004	580	265	845	6
2005	151	49	200	20
total realised	**2437**	**978**	**3415**	**39**
total planned	1100	621	1721	56
% of total planned	221%	157%	198%	70%

Source: Amhara national regional state, Bureau of Water Resources Development (2013), IDA/DFID funded WSSP Implementation Completion Report

According to the ICR, the revised plan reduced the number of water points to be constructed under IDA/DFID fund reduced to the number of expected beneficiaries from 1,086,800 to 981,800. The number of actual beneficiaries for water point was estimated based on an average number of beneficiaries per point and collected from reports for RPS. The total number of beneficiaries was estimated at 709,302 persons, which is slightly lower than what was planned, mainly because some RPS have not been constructed.

Table 19. Number of rural beneficiaries who gained access to water in Amhara (Mid 2010 – Mid 2013)

	HDWs	SPDs	Total (HDW and SPD)	RPS	Total per year
2003	140,670	61,200	201,870	49,566	**251,436**
2004	156,600	79,500	236,100	22,063	**258,163**
2005	40,770	14,700	55,470	144,233	**199,703**
total realised	338,040	155,400	493,440	215,862	**709,302**

Source: Amhara national regional state, Bureau of Water Resources Development (2013), IDA/DFID funded WSSP Implementation Completion Report

E.3 Value for Money analysis of rural water component

This section summarises the main VFM indicators calculated from the analysis of the rural water component. As there was no detailed data available on expenditure on main inputs (staff, transport, fuel drilling contracts et.), it was not possible to calculate economy indicators. It was also not possible to calculate cost effectiveness indicators in the absence of data on sustained outputs.

Cost efficiency indicators were derived from a detailed allocation of expenditure related to different types of rural water schemes and are summarised in the Table 20 below. It was not possible to compare cost efficiency indicators across years, as it was not possible to relate expenditure in one year to outputs reported in the same year. Therefore the indicators are average costs across the three years.

Table 20. Cost efficiency VFM Indicators for rural water supply

	Hand dug Well and Springs	Rural Piped Scheme
Cost per new water point	**£3,298**	**£197,218**
Direct hardware	£2,741	£170,764
Direct software	£48	£0
Programme support Costs (at regional and federal level)	£509	£26,455
Cost per person who gained access to a new water point	**£11.8**	**£35.6**
Direct hardware	£9.8	£30.9
Direct software	£0.2	£0.0
Programme support (indirect & direct)	£1.8	£4.8

Source: authors, Costs are adjusted for inflation and exchange rate variations (year base =2010/11)

Figure 30 and Figure 31 below show that the cost to setting up a water point and rural piped scheme. Most expenditure is related to hardware cost (between 85-89%) and programme support. There is little expenditure made on software for community water points and none for RPS.

Figure 30 Average cost per water point in GBP

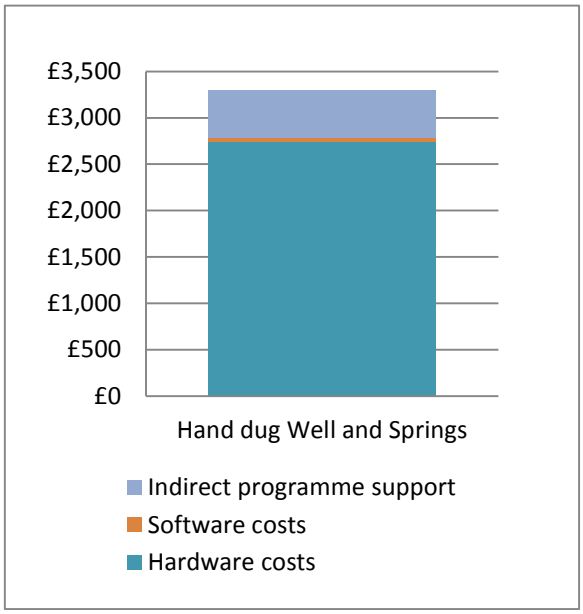
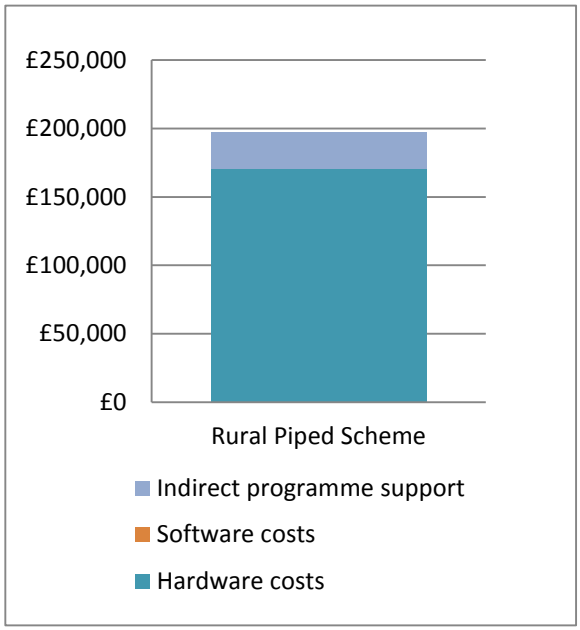


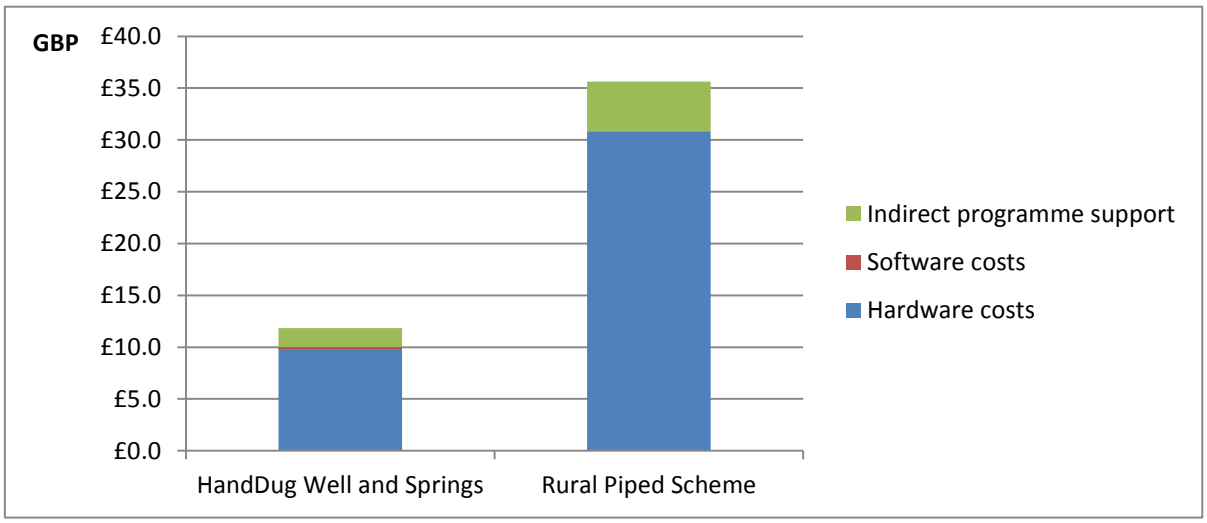
Figure 31 Average cost per Rural piped scheme in GBP



Source: Authors, Costs are adjusted for inflation and exchange rate variations (year base =2010/11)

In terms of VFM analysis, it is more meaningful to look at the cost per person. The average total cost of providing one person with access to water through a rural water piped scheme was GBP 30.7, when it was GBP 10.5 for a low cost water point (Hand dug Well and Springs). Even though more persons can be reached with water points, the level of service delivered by RPS is higher. Therefore it is necessary to pursue this analysis with data on the level of service delivered by both of these technologies (in terms of accessibility, functionality, water quality, reliability etc.) and their sustainability.

Figure 32. Average costs per person gaining access to water in GBP



Source: Authors, Costs are adjusted for inflation and exchange rate variations (year base =2010/11)

At this stage, these VFM indicators alone do not mean much, they would need to be compared with other similar indicators in other regions with similar and different conditions so as to be in a position to say if good value for money was provided.