FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

ONE WASH NATIONAL PROGRAM

A Multi-Sectoral SWAp

PROGRAM DOCUMENT

Final

August 2013

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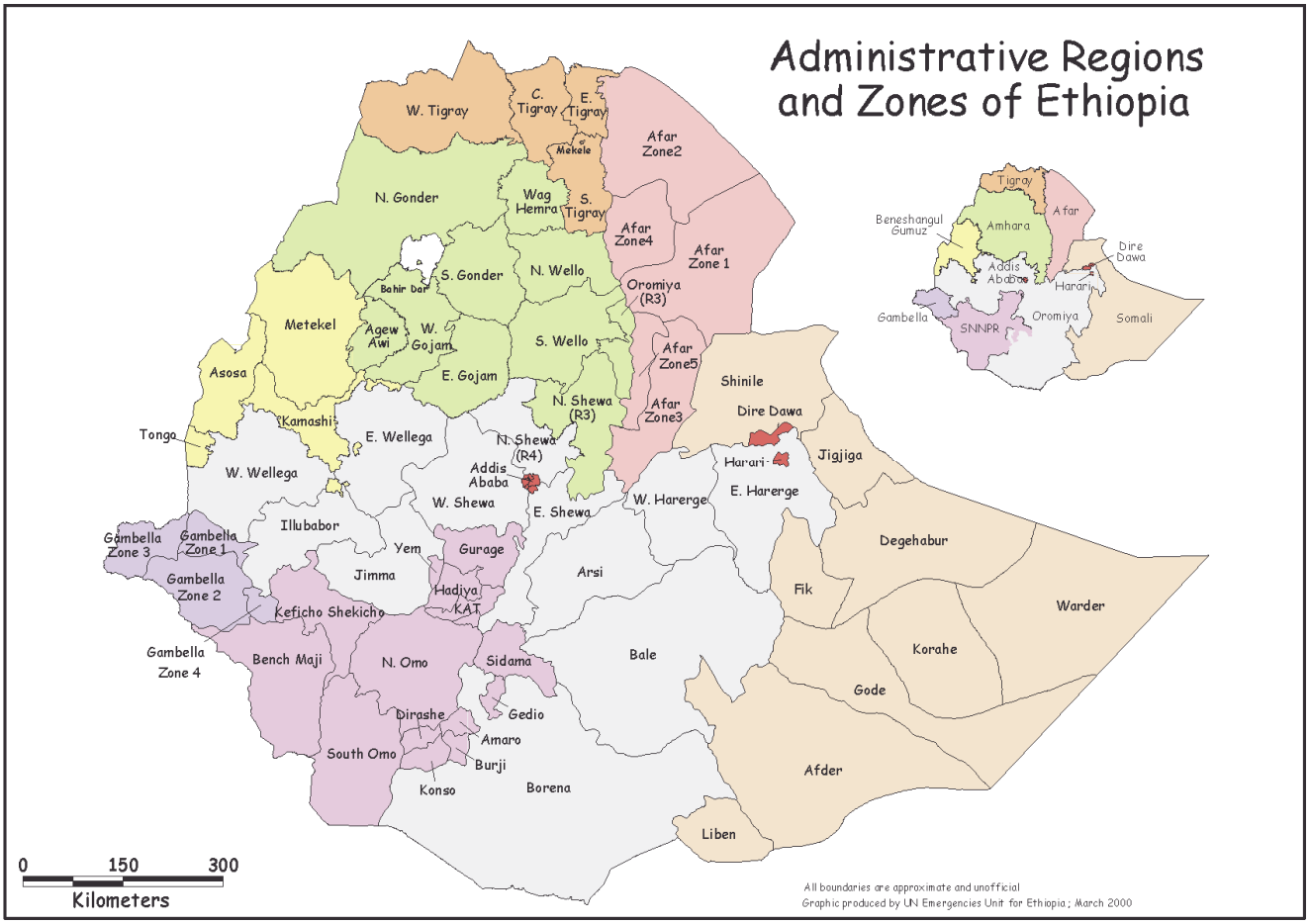
Abbreviations and Acronyms

AAWSA	Addis Ababa Water and Sewerage Authority
AFD	Action for Development
AfDB	African Development Bank
AMREF	African Medical and Research Foundation
AWD	Acute Watery Diarrhea
BADEA	Arab Development Bank
BC	Behavior Change
BoFED	Bureau of Finance and Economic Development
BOQ	Bill of Quantities
BoWR	Bureau of Water Resources
CAP	Consolidated Annual WASH Plan
CFT	Community Facilitation Team
CLTSH	Community-Led Total Sanitation and Hygiene
CMP	Community Managed Project
CSA	Central Statistical Agency
CSO	Civil Society Organization
CWA	Consolidated WASH Account
DAG	Development Assistance Group
DFID	Department for International Development (UK)
DRMFSS	Disaster Relief Management and Food Security Sector
EC	Ethiopian Calendar
EMIS	Education Management Information System
EPRU	Emergency Preparedness and Response Unit
ESA	Ethiopian Standards Authority
ESDP	Education Sector Development Program
ETB	Ethiopian Birr
EU	European Union
EWTI	Ethiopian Water Technology Institute (formerly EWTEC)
EWTF	Emergency WASH Task Force
FLOWS	Forum for Learning and Sharing on Water Supply and Sanitation
FMR	Financial Monitoring Report
FRA	Fiduciary Risk Assessment
FY	Fiscal Year
GDP	Gross Domestic Product
GIS	Geographic Information System
GOE	Government of Ethiopia
GLASS	Water global annual assessment of Sanitation and Drinking Water
GLoWS	Guided Learning on Water and Sanitation
GPS	Global Positioning System
GTP	Growth and Transformation Plan
Ha	Hectare
HCS	Hararghe Catholic Secretariat
had	Health Development Army
HEP	Health Extension Program
HEW	Health Extension Worker
HH	Households
HMIS	Health Management Information System
HOAREC	Horn of Africa Regional Environmental Center
HP	Hand pump
HSC	Health Science College
HSDP	Health Sector Development Plan
IA	Implementing Agency

ICB	International Competitive Bidding
ICT	Information and Communication Technology
IFMIS	Integrated Financial Management Information System
IPP	Indigenous Peoples Plan
IP	Implementing Party
IRC	International Reference Center
IT	Information Technology
JICA	Japan International Cooperation Agency
JFA	Joint Financing Agreement
JMP	Joint Monitoring Program
JTR	Joint Technical Review
KPI	Key Performance Indicator
KWT	Kebele WASH Team
Lcpd	Liters per capita per day
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MIS	Management Information System
MFI	Microfinance Institution
MOE	Ministry of Education
MOFED	Ministry of Finance and Economic Development
MOH	Ministry of Health
MOWE	Ministry of Water and Energy
MOU	Memorandum of Understanding
MSF	Multi-Stakeholder Forum
MWA	Millennium Water Alliance
NBE	National Bank of Ethiopia
NCB	National Competitive Bidding
NGO	Non-government Organization
NWCO	National WASH Coordination Office
NWI	National WASH Inventory
NWTT	National WASH Technical Team
O&M	Operation and Maintenance
OCHA	Office for Coordination of Humanitarian Assistance
ODF	Open Defecation Free
OFAG	Office of Federal Auditor General
OWNP	One WASH National Program
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PCDP	Pastoralist Community Development Project
PDA	Personal Digital Assistant/Tablets
PFM	Public Financial Management
PMU	Program Management Unit
PoA	Power of Attorney
PTA	Parent Teacher Association
QA	Quality Assurance
RiPPLE	Research-inspired Policy and Practice Learning in Ethiopia
RFP	Request for Proposals
RPF	Resettlement Policy Framework
RWCO	Regional WASH Coordination Office
RWPMU	Regional WASH Program Management Unit
SAP	Strategic Action Plan (Sanitation)
SLTSH	School-led Total Sanitation and Hygiene
SNNPR	Southern Nations and Nationalities People's Republic
SNV	Netherlands Development Organisation

SP	Service Provider
SSAP	Self-Supply Accelerated Program
SSWG	Self Supply Working Group
SWAp	Sectorwide Approach
TA	Technical Assistance
ToFED	Town Finance Office
TOR	Terms of Reference
TSG	Town Support Group
TVETC	Technical and Vocational Training College
TWB	Town Water Board
TWU	Town Water Utility
UAP	Universal Access Plan
UNESCO	United Nations Education, Science and Cultural Organization
UNICEF	United Nations Children's Fund
USD	United States Dollar
UWSSP	Urban Water Supply and Sanitation Project
WASH	Water, Sanitation and Hygiene
WASHCO	Water, Sanitation and Hygiene Committee
WASH MIS	Water, Sanitation and Hygiene Management Information System
WHO	World Health Organization
WIF	WASH Implementation Framework
WoFED	Woreda Finance and Economic Development Office
WPMU	WASH Program Management Unit
WRDF	Water Resources Development Fund
WSG	Woreda Support Group
WSP	Water and Sanitation Program (World Bank)
WSSP	Water Supply and Sanitation Project
WWT	Woreda WASH Team


Administrative Regions and Zones of Ethiopia
W. Tigray
C. Tigray
E. Tigray
Mekele
Afar Zone2
N. Gonder
Wag Hemra
S. Tigray
Afar Zone4
Afar Zone 1
S. Gonder
N. Wello
Oromiya (R3)
Bahir Dar
Metekel
Agew Awi
W. Gojam
S. Wello
Afar Zone5
Asosa
E. Gojam
N. Shewa (R3)
Shinile
Afar Zone3
Dire Dawa
Kamashi
Tonga
E. Wellega
N. Shewa (R4)
Harari
Jigjiga
Addis Ababa
W. Wellega
W. Shewa
E. Shewa
W. Harerge
E. Harerge
Illubabor
Gambella Zone 3
Gambella Zone 1
Yem
Gurage
Degehabur
Jimma
Arsi
Gambella Zone 2
Hadiya
KAT
Fik
Warder
Keficho Shekicho
Gambella Zone 4
Bench Maji
N. Omo
Sidama
Bale
Korahe
Gode
Dirashe
Gedio
Amaro
South Omo
Burji
Afder
Konso
Borena
Liben
0
150
300
Kilometers
All boundaries are approximate and unofficial
Graphic produced by UN Emergencies Unit for Ethiopia ; March 2000
Tigray
Afar
Beneshangul Gumuz
Amhara
Dire Dawa
Addis Ababa
Harari
Gambella
SNNPR
Oromiya
Somali

Glossary of Terms and Definitions

Advocacy - activities undertaken to persuade and mobilize people/decision makers to take action.

Basic/unimproved sanitation facility - A fixed point of defecation system that does not satisfy the criteria for an improved sanitation facility.

Behavior change - in hygiene and sanitation, behavior change refers to practicing safe disposal of feces through the construction and consistent use of improved latrines by all family members, handwashing with soap (or substitute) and water at critical times, and safe transport, treatment, storage and handling of household drinking water.

Borehole depths - The term "shallow" in Ethiopia is used to refer to a borehole up to about 60m in depth; "medium" depth refers to 60-150m; "deep" boreholes are drilled up to about 450m.

CLTSH - Community-Led Total Sanitation and Hygiene is Ethiopia's version of CLTS whereby basic hygiene behaviors, including hand-washing with soap (or substitute) and water at critical times, and safe water handling and treatment at the household level, are also addressed along with the drive to achieve ODF status.

CMP – Community Managed Project - WASH projects managed by trained and recognized WASHCOs with support from service providers such as MFIs.

Community-led total sanitation and hygiene (CLTSH) - Changing sanitation and hygiene behavior of communities towards open defecation free environment, handwashing practice and keeping drinking water safe. This is done through a process of social awakening stimulated by facilitators from within or outside the community. The approach concentrates on the behavior of the community as a whole rather than on individuals.

Gender – the socially constructed definition of men and women, to be differentiated from sex, which is the biological characteristics of males and females and does not only refer to females. Gender is determined by tasks, functions and roles attributed to males and females in society and in public and private life.

Hygiene - practices associated with ensuring good health and cleanliness. This includes safe human excreta disposal (ODF), handwashing with soap at critical times most notably after defecation or before contact with food and strict observation of the safe drinking water chain.

Ignition (also called triggering) - the process wherein an outside facilitator mobilizes communities to take action to change their hygiene and sanitation behavior.

Improved drinking water supply- Use of piped water into dwelling yard or plot, public tap, or standpipe, tube-well or bore hole or protected spring, protected dug well and rain water-collection.

Improved Sanitation Facility - A sanitation system that is safe, clean and cleanable, sealed to discourage exposure to the flies, other animals and the environment as well as promote dignity and privacy.

Joint Technical Review - a semi-annual review process that brings together the government and major WaSH Development Partners to review program implementation including progress and challenges. These reviews provide an excellent opportunity for "big picture" learning and strategic problem solving

Model Household - a household that fulfils 11 of the 16 HEP packages that include access to and use of latrine, handwashing, water storage and treatment facilities.

Multi-Stakeholder Forum - an annual event that brings together stakeholders from government (including representatives from the four signatory Ministries), Development Partners, civil society organizations, and the private sector to review progress in the WASH sector and to agree on key strategic undertakings to be

jointly pursued during the year ahead. The MSF is designed to improve communication between stakeholders, as well as supporting the mutual objectives of coordination, harmonization and alignment among partners across the implementing sectors

Offsite Sanitation. A water-borne sanitation system linked to a sewer whereby excreta are pumped or otherwise transferred to a treatment system at a different location.

Onsite Sanitation - A sanitation system whereby excreta are contained at the same location as the toilet; either in a pit, chamber, vault or septic tank.

Open defecation free (ODF) - an environment wherein no feces is openly exposed to the air. It describes a state in which all community members practice use of latrine at all times and a situation wherein no open defecation is practiced at all. ODF is a term used in CLTSH to describe the attainment of 100 percent latrine coverage and use by all families in a village, including small children.

Pre-ignition/triggering - A process comprises preparations made to mobilize villagers. Pre-ignition activities include a strategic selection of kebeles and villages, fixing appropriate date, time & place for community ignition.

Resettlement Area – An area where people have been recently resettled as a result of actions by government agencies or private entities for agricultural, industrial or infrastructure development.

Sanitation in SAP - rural and urban domestic institutional on site sanitation, handwashing and safe drinking water handling in the home. The urban aspects of the SAP address peri-urban areas, small towns and informal settlements where on-site solutions can be applied.

Sanitation marketing - an approach that focuses on improving formal and informal supply chains, products and services to expand the delivery of affordable basic sanitation, coupled with the application of commercial marketing techniques to stimulate demand to increase the number of households investing their own resources to build and maintain an improved sanitation facility.

Safe water: Safe water is to say that drinking water need to be free of pathogenic organisms, toxic substances, an over dose of minerals and organic materials as well as it should be pleasant (free of color, turbidity, odor and taste).

Safe water chain - Protecting water at the source is the first critical step in a multiple-barrier approach that also includes treatment for contaminants, monitoring to ensure that health-based standards are met, and adequate infrastructure maintenance, especially of distribution pipes that carry water from the treatment plant to customers. An informed public with an understanding that everybody plays a role in water protection is critical to protect our drinking water now and for the future. Safe water chain includes application of household water treatment and safe storage of drinking water until consumption.

Safe water management - management of drinking water at home (including the practices of household water treatment, safe storage and use).

Self Supply - Improvement to water supplies developed largely or wholly through user investment by households or small groups of households". Self-supply involves households taking the lead in their own development and investing in the construction, upgrading and maintenance of their own water sources, lifting devices and storage facilities. A key characteristic of Self Supply is the ladder of incremental improvements in steps that are easily replicable and affordable to users, linked when necessary to microfinance and/or water from productive use.

Social/Sanitation marketing - an approach aimed at both generating demand for improved goods and services and meeting that demand with improved supply of goods and services. The approach stimulates

and facilitates improvements in the supply side of the service by utilizing small to medium scale private sector providers in the provision of goods and services.

Sub-city/Kebele Development Committee - The Sc/KDC is an institution that will be engaged in WASH activities in its respective Sub-city or Kebele. The composition is: Representative of Kebele administration, Health Extension Worker, School community members, representatives of youth and women associations

Total sanitation - A situation where no open defecation is practiced and in which the cycle of fecal contamination through vectors including flies, fingers, animals, feet, wind, flood and rain runoff has been broken.

Town/City WaSH Steering Committee (T/CWSC) - The Town/City cabinet serves as the WASH Steering Committee.

Town/City Water Board (T/CWB) - The T/CWB is established as per regional proclamations and functions as the board of management for town/city water supply and sewerage (liquid waste management) services. In most instances, the Utility Manager is a member of the Board and serves as Board Secretary.

Town/City WaSH Technical Team (T/CWTT) - The T/CWTT is established by the town/city administration or town/city WASH Steering Committee and consists of mainly representative from the town/city administration (municipality), the Water Board, Town's Finance and Economic Development, utility for WSS, health and education desk personnel. The Chairperson is designated by the establishing authority.

Water Supply and Sewerage Utilities (WSSU) - The WSSU is an existing institution that is responsible for the day-to-day operation and management of water supply and liquid waste management systems.

Unimproved water supply - use of unprotected dug well, unprotected spring, cart with small tank, or drum, tanker truck, surface water (river, Dam, Lake, pond, stream, canal, irrigation, and channel).

Verification - a process of endorsing that a given Village/Kebele/Community is totally free of open defecation practices (ODF).

WaSH Strategic Plan - The WASH Strategic Plan sets out woreda strategies, targets and schedules for achieving WaSH coverage over a 5-year period.

WaSH Annual Planned Budget - The Annual WaSH Plan sets out the specific activities, outputs and expenditures for the year ahead. It incorporates the planned WaSH activities, investments and targets of all WaSH implementers – including other government programs, and the programs of NGOs that are active in the sector. The Woreda WASH Budget includes funds coming to, or allocated by, the Woreda Administration for WASH activities.

Water Quality Monitoring - systematic verification of water quality standards through laboratory/or spot analysis of samples taken at critical points of the water supply system.

Water Quality Surveillance - watching and protecting drinking water from potential source of contamination through sanitary survey and water quality analysis of samples taken at different points.

1. Executive Summary

1.1 Introduction

The One WASH National Program (OWNP), hereafter referred to as the Program, operationalizes the Memorandum of Understanding (MoU) and the WASH Implementation Framework (WIF) signed by the Ministries of Water and Energy, Health, Education and Finance and Economic Development in November 2012 and March 2013, respectively. The Program is the Government of Ethiopia's (GoE) main instrument for achieving the goals set out in the Growth and Transformation Plan (GTP). In the GTP, targets for access to safe water supply are 98%, 100% for rural and urban areas, respectively.

The targets for sanitation and hygiene set out in the Universal Access Plan (UAP) are that all Ethiopians will have access to basic sanitation, while 77% of the population practice handwashing at critical times, safe water handling and water treatment at home, and that 80% of communities in the country achieve open defecation free (ODF) status.

1.2 Program Description

1.2.1 Development Objective

The Program's Development objective is to contribute to improving the health and well-being in rural and urban areas by increasing water supply and sanitation access and the adoption of good hygiene practices in an equitable and sustainable manner.

1.2.2 Intermediate Objective

The intermediate Objective of the Program is to achieve increased coverage of water supply and sanitation in rural and urban areas in Ethiopia in line with the GTP 2010-2015.

1.2.3 Guiding Principles

The WIF sets out four guiding principles that will govern the implementation of the Program:

- Integration of the water, health, education and finance sectors
- Alignment of partners' activities with those of the Government of Ethiopia
- Harmonization of partners' approaches and activities
- Partnership between implementing parties at all levels

1.2.4 Program Pillars

The Program's activities rest on three overarching domains or pillars:

1. Creating an enabling environment and good governance
2. Maximizing availability and efficient use of human and financial resources to create demand for better WASH services
3. Capacity development for improved delivery of WASH services at all levels

The Program will be implemented as a multisectoral SWAp involving the water, education, health and finance and economic development sectors as well as the private sector. During Phase I (see below), there will be increasing alignment by partners with Government systems for planning, budgeting, procurement, financial management, and monitoring and reporting.

The Program will address disparities in WASH coverage among and within regions and urban areas. The Program will seek to improve aid effectiveness and promote institutional reforms, with particular focus on

capacity development at woreda, kebele and community levels. WASH training will be increasingly professionalized and institutionalized through support to training institutions at all levels.

The Program will be implemented in a cascading, stepped approach according to agreed prioritization criteria, which include present water supply and sanitation coverage, size and type of WASH activities, capacity needs and present resources, among others.

1.2.5 Phasing

The Program duration will be seven years, implemented in two phases; Phase I from July 2013 to June 2015 and Phase II from July 2015 to June 2020. There can be changes in important GoE policies, strategies and plans when the present GTP, UAP and MDGs end in 2015. Phasing will allow for these changes to be accommodated in the second phase of the Program. Before the end of Phase I, during the JTR in early 2015, a comprehensive review of the Program's progress and achievements during Phase I will take place and any adjustments/revisions required for Phase II will be identified.

Phase I will be a marked by increasing harmonization and alignment among and between development partners and GoE, during which WASH organizations and procedures will be fully established and become operational at all levels. Also during Phase I, partners, including CSOs, will be expected to increasingly align their targets, plans and activities with the Program. New WASH programs/projects or new phases of existing WASH programs/projects will be expected to be aligned with the Program's principles, approaches and plans.

Due to the limited duration of Phase I (two years), the limited finances available during the first year of the Program, and limits to construction of urban water supplies and drilling capacity imposed by the lack of skilled technicians, contractors and equipment, it will be necessary to prioritize low-cost water supply facilities that can be constructed by local artisans through community managed projects, self supply and by NGOs. The guiding principle of Phase I will be, "some for all, not all for some", meaning that unserved areas, communities and households will receive at least a basic level of water supply and sanitation services. Focusing on lower-cost supply options that can be constructed by artisans and managed by communities will also mean that time spent on lengthy procurement will decrease.

The limited time and funding, seen against ambitious targets, require that each Birr spent result in additional population served by safe water supply and sanitation facilities, i.e. the marginal coverage increase per additional unit of investment, or MCI. This means that during Phase I, unserved people and institutions will be targeted and receive higher priority than those who already have a basic level of service but desire higher service levels.

Unit costs are to be treated as average costs within a region rather than absolute limits. Benchmark average unit rates will be established based on a comparison of costs from a sample of recent contracts. Deviations from benchmark rates for key items will be tolerated within agreed limits, e.g. 10%. Unit costs for the most expensive water supply interventions, i.e. drilling deep boreholes in hard rock formations and construction of urban water supplies, will be the subject of efforts to increase the efficiency of drilling (i.e. reduced number of negative boreholes) and reduce fixed costs by packaging larger lots of boreholes in the same area in one contract), and the cost of urban water supply by promoting the increased use of turnkey contracts, e.g. by combining design, construction and supply contracts.

During Phase I, capacity building activities will receive high priority and will focus on supporting regions, zones, towns, woredas, kebeles and communities to meet implementation "readiness" criteria and to establish effective procurement, contract management and supervision procedures and robust monitoring, information management and reporting systems.

Phase II of the Program is likely to follow one of two paths, i.e. continuity or redesign. In the continuity path, Phase II will be a continuation of the institutional arrangements and implementation modalities from Phase I with adjustments agreed at a comprehensive Mid-term Review in early 2015. Main activities will consist of completing work began in Phase I and reaching any unachieved targets. Higher service levels may also be considered, contingent on funds and other resources available. Some capital expenditure for construction of buildings, laboratories and other facilities, including urban sewerage, has been included in Phase II.

In the redesign path, Phase II would have different policy priorities, targets, institutional roles and responsibilities and/or implementation modalities. Consideration can be given to broadening the Program's scope to include such related activities as watershed and water resources management, productive uses of water, environmental protection, climate resilience, etc. Any such redesigns would be identified and agreed at a Mid-term Review to take place in early 2015.

1.2.6 Program Components

The Program will include the following components:

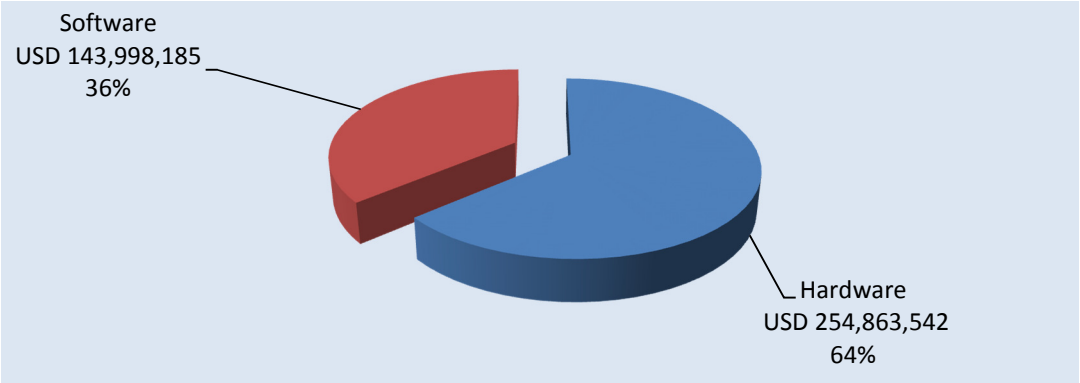
Component 1: Rural and Pastoral WASH - Estimated cost: USD 1.03 billion (water supply) and USD 0.4 billion (sanitation and hygiene). Activities by the water bureaus will include construction of 55,865 new conventional water points and water supply schemes and rehabilitating 20,010 existing schemes. Furthermore, 42,529 household dug wells and community dug wells are expected to be constructed by households and communities through self supply.

Sanitation activities include motivating households and supporting institutions to improve access to improved and unimproved latrines. Health Extension Workers and community-level members of the Health Development Army will be instrumental in achieving sanitation and hygiene improvements at household level.

Implementation of the Pastoral WASH sub-component will require close coordination and collaboration with NGOs and emergency WASH activities to avoid duplication of effort and to make efficient use of available experience and resources.

Some 36% of the proposed budget for sanitation in Component 1 is allocated for software activities, while 64% is allocated for hardware support as shown in Figure 1.1.

Figure 1-1: Distribution of Software and Hardware Activities for Rural and Peri-urban Sanitation (USD)



Component 2: Urban WASH - Estimated cost: approximately USD 786 million for water supply and USD 95.7 million for sanitation improvements in urban areas. Main activities include study and design, capacity building and management support, environmental and resettlement safeguards, immediate service improvements and expansion and augmentation of water supplies. Sanitation and urban environmental improvements will include desludging equipment and facilities, management of wastewater and public toilets in selected locations.

Component 3: **Institutional WASH -** Estimated cost: USD 545.7 million. Activities include support to improving water supply and sanitation facilities and hygiene practices at health institutions, which will be the responsibility of the Ministry of Health (MoH) and regional and city health bureaus and woreda health office. The Ministry of Education (MoE) and regional and city education bureaus and woreda education offices will be responsible for planning and implementing WASH activities in schools. Regional/city water bureaus may provide technical assistance in the design, construction and supervision of water supplies in institutions. The indicated amount includes 11,415,542 USD to be used for water quality monitoring. Doing so is expected to increase economy of scale and ease out administration arrangements.

Component 4: Program Management and Capacity Building - Estimated cost: USD 90,028,152 for rural WASH component management and capacity building and USD 78,618,150 for urban WASH program management and capacity building. Furthermore technical assistance in self supply, supply chain, pastoral WaSH, M&E will be provided at a cost of USD 10,158,848.

This component includes support to improve skills and capacity of the Program's organizations and implementing parties at all levels to plan, manage and monitor Program activities through training, post-construction management support, equipment, tools, and support to monitoring and reporting. The Program will support a minimum staffing and resource package necessary to effectively implement the Program at all levels to be determined by a capacity assessment at federal, regional/city and town/woreda level.

Capacities of TVETCs and HSCs will be enhanced at an estimated cost of USD 11,977,590 through support to training of trainers, curriculum development and training equipment for workshops and laboratories. Similarly, services from the Ethiopian Water Technology Institute (EWTI) will be used to train WASH professionals at an estimated cost of USD 3,655,308.

1.2.7 Targets and Costs

Achieving GTP targets and universal coverage mean that an additional 26.6 million rural and 4.4 million urban inhabitants in 6,284,000 households will gain access to safe drinking water, as well as 22,342 primary schools, 643 secondary schools and 7,772 health posts/centers.

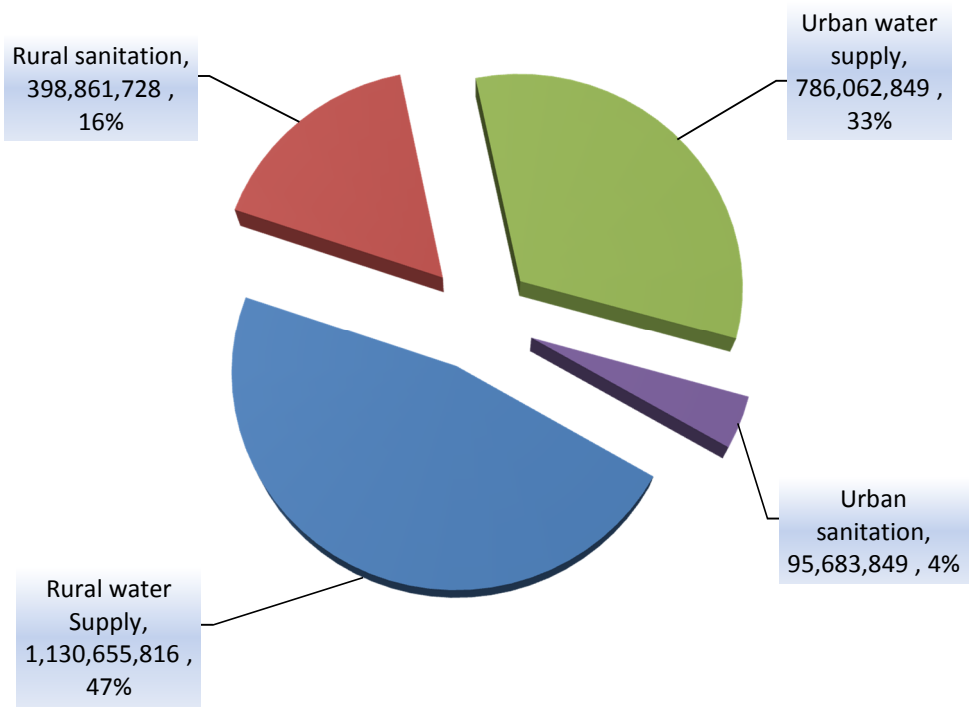
In sanitation, an additional 6,122 schools, 7,037 health posts/centers will have access to improved sanitation facilities. Construction or rehabilitation of sanitation facilities in 15,122 schools and 7,141 health posts will also be undertaken. Increasing national water supply coverage to 98.5% from the current 67[1]% requires the provision of 55,865new conventional and 20,010 rehabilitated water points in rural and peri-urban areas, respectively, and 777 new, or expanded pipe systems in towns. Furthermore, 42,529

[1] This figure is based on the 2013 access figures reported by regions. The figures are checked for credibility in coordination with NWCO

household dug wells and **community** dug wells are expected to be constructed by households and communities through the self supply acceleration program in rural areas.

Increasing sanitation coverage from 65.8% to 100% requires the construction of 6,724,676 household and 6,122 school latrines and the extension of the sewerage system in Addis Ababa.
Achieving the GTP targets will require a total investment of USD 2.41 billion USD, the breakdown of which is shown in Figure 1.2 below:

Figure 1-2: Program cost by Component



An estimate of potential funding sources is shown in Chapter 13, which indicates that Government will provide over 52.5% , communities 8%, NGOs 4.9%of the total required finance with Development partners providing about 13.1% as grant & 21.4% as loan - however a funding gap of about 32% or over 0.778 billion USD still remains.

1.3 Roles and Responsibilities

The Program's organization and the roles and responsibilities are described in detail in the WASH Implementation Framework signed by the ministries of Water and Energy, Health, Education and Finance and Economic Development in April 2013.[2]

The Program will be implemented as a joint effort between Government, development partners, NGOs, training institutions, the private sector, community members and other stakeholders. In addition to the Government, a number of Development Partners have expressed interest in supporting the Program through contributions to a Consolidated WASH Account at federal level. Other partners, including bilateral and multilateral aid organizations and NGOs, will support the Program through other funding arrangements, as well as through provision of technical assistance, supplies and other means.

[2] WASH Implementation Framework (WIF), signed by the four ministries in April 2013.

A National WASH Coordination Office (NWCO) will be responsible for coordinating the planning and implementation of the Program at federal level, which will consist of preparing a consolidated annual WASH plan, budget and periodic reports. The NWCO will report to a National Steering Committee chaired by the Minister of Ministry of Water and Energy and supported by the National WASH Technical Team. Implementation of the Program will be coordinated by NWCO and implementation will be the responsibility of WASH Program Management Units (WPMUs) in the ministries of Water and Energy, Health, Education and Finance and Economic Development.

At regional, zonal and city levels, planning and implementation of the Program will be coordinated by a Regional WASH Coordination Office which will report to a Regional WASH Steering Committee and be supported by a Regional WASH Technical Team. Implementation at regional level will be managed by WPMUs in the bureaus of Water Resources, Health, Education and Finance and Economic Development.

Each region will decide what, if any, specific WaSH structures are required at the zonal level and what their functions and responsibilities will be. In larger and special zones it is likely that zonal structures will replicate those at the regional level. Zonal structures will play an important intermediary role between the region and the towns and woredas for planning, monitoring, reporting, disseminating information and providing technical assistance. In regions with zonal offices, there will be a Zonal WASH Coordination Office and Zonal WASH Management Team with similar functions as their regional counterparts.

In woredas and towns, planning and implementation of the Program will be coordinated by a dedicated WASH Team consisting of members from the water, health, education and finance offices. In woredas agriculture, women's affairs and NGO representatives are also included. The WASH team will report to a WASH Steering Committee appointed by the Woreda Cabinet or Town Board.

At kebele level WASH activities will be coordinated by a Kebele WASH Team (KWT) with assistance from the Woreda WASH Team (WWT). Annual Kebele WASH plans will be approved by the Kebele Chairman and Council, and Health Extension Workers will work with the Health Development Army to support communities in construction of latrines and to promote safe hygiene practices using the CLTSH approach.

At community level, WASH Committees (WASHCOs) consisting of elected community members will be formed to undertake planning, O&M and in some cases construction of improved water supply and sanitation facilities. It is important that women are well-represented and are elected to serve as officers in WASHCOs. WASHCOs will be assisted to obtain legal status or formal recognition to strengthen their management and accountability. Members of the Health Development Army will work with HEWs to promote sanitation and hygiene among households.

2. Introduction and Background

2.1 Introduction

This Program Document has been prepared with the support of the Government of Ethiopia, a dedicated One WASH National Program (OWNP) Task Force and a number of Development Partners. It is intended to serve as a guide to implementing the OWMP, hereafter referred to as the Program. This document is not in itself a detailed implementation manual for all aspects of the Program, but provides for technical assistance to adapt or prepare implementation manuals as required in financial management, procurement and M&E, among others. In addition, provision is made for preparing detailed strategies and implementation plans in such areas as gender equity, climate screening, social inclusion and communication, among others.

2.2 The Global Context

Global milestones in the development of approaches that form the legacy of today's WASH policies and programs include the so-called Dublin Principles, which were presented and ratified at the World Summit in Rio de Janeiro in 1992. (See box below.) Safe water and basic sanitation are basic needs of people's daily

life and they have become urgent requirements for protection and improvement of people' health and living conditions, as well as for national economic development.

Safe drinking water and basic sanitation are crucially important to the preservation of human health. Water-related diseases are the most common causes of illness and death among the poor of developing countries

According to the WHO/UNICEF Joint Monitoring Program (JMP) evaluation meeting, reaching the MDG Targets would prevent 47,000 deaths per year[3]

A study conducted in 48 least developed countries found that in those countries 1 out of 4 (25%) of people practice open defecation, and 1 out of 10 (10%) use surface water for drinking and washing. The numbers are even higher in rural areas, where 14% of people rely on surface water and almost a third practice open defecation[4].

In response to the above challenges, the UN General Assembly has recognized that the supply of safe and clean drinking water and basic sanitation facilities are not only human rights, but also essential to the full enjoyment of life. Following the UN General Assembly resolution, the UN Human Rights Council affirmed at its 15th session in September 2010, that, "adequate water and sanitation is a right to life and human dignity"[5].

Significant gains have been made in the provision of water and sanitation services. Globally, between 1990 and 2010, over 2 billion people have gained access to improved water sources and 1.8 billion people gained access to improved sanitation facilities, while 11% of the global population are still using unimproved water sources, resulting in the death of 2.2 million children every year due to preventable

The Dublin Principles

Principle 1: Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.

Fresh water is a finite resource. Fresh water is a natural resource that needs to be maintained by ensuring effective management of water resources. Water is needed for different purposes, functions and services. Water management should take account of both the demand for and threat to this essential resource.

Principle 2: Water development should be based on a participatory approach involving users, planners and policy-makers at all levels.

Water is a resource that affects us all. True participation occurs only when all stakeholders are involved in decision making. A participatory approach involving all stakeholders is the best strategy to achieve long-term accord and consensus. Participation means taking responsibility for and acknowledging impact of this sector on other water users and water ecosystems as well as committing to increasingly effective use and sustainable development of water resources.

Participation does not always result in consensus. Other conflict resolution mechanisms should be ensured. Governments should ensure the participation of all stakeholders, in particular vulnerable groups of the population. Decentralizing decision making to the lowest level is the only way to enhance participation.

Principle 3: Women play a central part in the provision, management and safeguarding of water.

It is generally accepted that women play a key role in the collection and safeguarding of water for domestic purposes and, in many instances, agricultural use. At the same time, women play a less powerful role than men in management and decision making related to water. The important role of women as users and managers of water has to be acknowledged.

There is an important link between gender equality and sustainable water management. Participation of men and women playing a decision making role at all levels of water management can expedite the achievement of sustainability, and contribute to gender equality by improving access of both women and men to water and water-related services, thus serving the daily needs of all.

Principle 4: Water is a public good and has a social and economic value

Access to clean water and sanitation at an affordable price is a basic human right. Managing water as an economic good is important to achieve efficient and equitable use, and to encourage conservation and protection of water resources. Water is both an economic and social good.

Past failure to effectively manage water resources is due partly to failure to recognize the economic value of water. Water cost and water charges are two different things. The cost of water is an important tool to efficiently allocate water as a scarce resource. Water charges are a tool used to favor vulnerable groups and influence their behavior by providing incentives to use water efficiently and to pay for improved services.

[3] WHO 2004, Facts and Figures
[4] GLASS-UN-Water global annual assessment of Sanitation and drinking water, WHO/UN Water,2010
[5] Ibid, 2010

water and sanitation related diseases[6].

As stated in several studies the supply of improved water hygiene and sanitation facilities (WASH) not only in attaining health and values (dignity, equity, compassion solidarity and respect) but also contribute in economic and financial savings such as in reducing health care costs, protecting the environment and reducing time spent collecting and transporting water.

A study by WHO revealed that each USD 1 invested would yield an economic return of between USD 3 and USD 34. Households with improved water and sanitation services suffer less mortality from water related diseases. Benefits include an average global reduction of 10% in diarrheal episodes and health-related costs saved are as much as USD 7.3 billion annually, while the value of working days gained is as much as USD 750 million a year.

Ensuring the accessible of safe water basic sanitation facilities for half of the world population by the year 2015 contributes to the achievement of Targets 7C and 7D of the MDGs.

2.3 The Evolution of WASH in Ethiopia

2.3.1 Introduction

Ethiopia is a Federal Democratic Republic having 11 regions with nine national regional states and two city administration and further divided into 805 districts or woredas. Ethiopia is the second largest county in sub-Saharan Africa with the estimated population of around 82 million, of which more than 69 million (84%) live in rural areas.

In Ethiopia, the coverage of water, sanitation and hygiene is very low compared with other African countries as a result the prevalence of communicable diseases is very high. While the government is committed to addressing this situation, there are still constraints such as shortage of human and financial resources and weak interagency coordination.

Ethiopia ranks second lowest among Sub-Saharan African countries in access to safe/improved drinking water according to the JMP (WHO/UNICEF). This can be attributed to several reasons, among which are limited capacity to develop water resources including groundwater, limited absorption capacity of public sector, weak management, poor operation and maintenance of water supply systems, high staff turnover, limited drilling capacity and involvement of the private sector, lack of contract management capacity and weak sector coordination.

2.3.2 Policy and Program Initiatives

The Ministry of Water and Energy has introduced policies, legislation and strategies such as National Water Resource Management Policy (1998), Water Sector Strategy (2000), Water Sector Development Program (2002), Water and Sanitation Access Plan (UAP) (2005), Memorandum of Understanding signed by three sector ministers (MoU, 2006) and a revised Memorandum of Understanding (MoU), signed by four sector ministers in November 2012. MoWE has also prepared guidelines for gender mainstreaming in the water and energy sectors (2012).

Health Sector Development Programs (HSDP I, II, III and IV) in line with the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), and now the Growth and Transformation Plan 2011-2015 (GTP) has been introduced to address the water, hygiene and sanitation problems of the country. One of the main innovations of the HSDP has been the Health Extension Program (HEP) that aims to reach universal coverage of primary health care and improve the quality of health services in rural areas and partly in the urban areas.

[6] Ibid, 2010

Ethiopia has made significant progress in improving sanitation and hygiene by introducing an innovative health service delivery program that aims to achieve universal coverage of primary health care. The program includes Health Extension Workers (HEWs) who provide basic preventive and curative health services in rural and urban communities. This program could not have been realized without political commitment from the Government and Development Partners, as well as the involvement of NGOs, the private sector and communities themselves. Yet, in spite of these efforts, today there are still millions of Ethiopians without access to safe and reliable water supply and sanitation facilities.

Ethiopia has made significant progress in water supply and sanitation coverage since the 1990's when water and sanitation coverage was 19% and 5%, respectively. Much of the increase in access to sanitation has taken place since 2000, when the Health Extension Program (HEP) was introduced. Presently, over 38,000 Health Extension Workers (HEWs) are working with members of the Health Development Army (HAD) at community level to promote household sanitation and good hygiene practices in rural areas throughout the country.

Introduction of the Community Led Total Sanitation and Hygiene (CLTSH) approach to promoting community and household sanitation and hygiene has provided a strategy to reach more communities to end open defecation through self-built toilets and promoting handwashing and safe water handling.

During the last 10 years, GoE has accelerated its commitment to address the country's water, sanitation and hygiene issues. The first UAP in Amharic and English (2005), the second UAP (2011), the National Sanitation Action Plan- SAP in 2011, National WASH Inventory (2013) and the National Drinking Water Quality Monitoring Strategy (2010)[7] have been prepared.

Ethiopia has endorsed the MDGs to guide implementation of WASH activities to ensure improved access to safe drinking water, improved health and hygiene practices, and increased gender equality.

The Rural Water Supply UAP (2011-2015) aims to achieve 98% access to improved water supply in rural areas with an annual growth rate of 9%[8]. The water supply component of PASDEP (2006-2011) was based on the UAP allowed Development Partners to align their activities with the Government's plans.

Water policies, legislation and strategies that establish objectives, defines roles and responsibilities for governments and partners were in place; however, these documents were not translated into action due to a number of reasons, among which were absence of effective implementation arrangements and adequate finance.

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

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

According to the National WASH Inventory (NWI)[9], in 2011 national access to water supply was 52.1% and to sanitation was 63%. This leaves a significant gap between the above targets and actual coverage.

[7] As of July 2013, the National Drinking Water Quality Monitoring Strategy has not yet been approved by the ministries of Health and Water and Energy.

[8] Urban Water Supply: Universal Access Plan 2011-2015, Ministry of Water and Energy, Addis Ababa.

[9] The National WASH Inventory is described in more detail in Section 3.5.

To facilitate achievement of the GTP and UAP targets, GoE has prepared a WASH Implementation Framework (WIF) to provide guidance for implementing the Program that defines the roles and responsibilities of major stakeholders in the WASH sector. Responsibility for achieving WASH targets is shared between MoWE (water supply and water testing), MoH (hygiene and sanitation, water quality monitoring and water supply and sanitation in health institutions) and MoE (school water supply and sanitation, school health clubs and support to TVETCs and HSCs). MoFED plays an important role in implementing Public Financial Management (PFM) policies, channeling GoE and donor funds and financial management and reporting.

Water supply, sanitation and hygiene are no longer addressed separately, but as an integrated package aimed at achieving agreed targets. Government is now committed to implementing a Sector Wide Approach (SWAp) through the One WASH National Program, which is also supported by a number of Development Partners and NGOs.

In spite of these initiatives, millions of Ethiopians still lack improved water and basic sanitation facilities, and very few people regularly wash their hands with soap and water at critical times. According to a recent report by the JMP[10] Ethiopia is among the 45 countries in the world with sanitation coverage of under 50% and one of 27 countries in the world where more than a quarter of the population still practice open defecation. However, since 1990, the proportion of the population practicing open defecation has declined at a rate of around 3.5% annually.

2.3.3 Evolution of the One WASH Program

The evolution of the One WASH Program in Ethiopia has followed three phases as follows:

1) WASH activities prior to 2004

Prior to 2004 WASH interventions were project-based, and there was no integration between water supply, sanitation and hygiene. There were no enabling conditions to integrate the three sub sectors (water supply, hygiene and sanitation). Community participation and women's participation was low, since government was doing all activities (top down supply driven approach). Private sector participation was also very low during this period. Government implementation capacity was also low. The water sector did not have a presence at woreda and kebele levels, while the health and education sectors were better represented at lower levels. There were no strategic plans to guide and prioritize interventions.

2) From 2004 to present

Since 2004, WASH implementation became program-based and a number of woredas and towns were included in the program in line with the then decentralization process. The WASH program launched by the World Bank was strengthened when DFID and AfDB adopted the same approach. The program Implementation Manual (PIM) has been developed at the early stage of the program, following which a WASH institutional structure at federal, regional and woreda levels (in all intervention woredas) were established. The program adopted a demand-driven approach where communities participate from the planning to the O&M stage.

The Government's financing for WASH activities has considerably increased during this period. HEWs are assigned to work at kebele level throughout the country, and women's involvement in WASHCOs has increased in some areas to 50% of WASHCO membership. In the private sector, the number of WASH professionals and service providers has increased at regional and woreda levels.

Implementing WASH activities in Ethiopia face a number of challenges:

[10] Progress on Sanitation and Drinking Water-2013 update, JMP.

- Activities are not fully harmonized, as some NGOs and other organizations are implementing WASH projects as a free service without community or user contributions;
- Fulfilling individual donor's financial and procurement procedures are difficult and time consuming;
- Ownership of WASH programs by regional bureaus has not progressed to the desired level, as programs are still seen as belonging to a donor or sponsoring organization;
- MoFED was not one of the original MOU signatories. Moreover, the first MOU did not contain a section on accountability, which led to loose, informal and voluntary relations between parties.
- Projects and programs are implemented in selected woredas and towns, while other woredas and towns do not benefit.

3) The One WASH National Program

To address the present challenges faced by the WASH sector, the Government has initiated and supported the preparation of the Program. The main features of the Program are:

- One plan for WASH; there will not be different programs for different donors, there will be one government-led WASH plan for all partners
- The four principles stated in the WIF: Harmonization, Integration, Alignment and Partnership, will govern Program implementation.
- A WASH organization will be established in regions, zones, woredas, towns and kebeles.
- The role of Government, donors and CSOs in the Program will be defined in accordance with the WIF.
- Donor's financial and procurement procedures will be brought increasingly aligned with GoE procedures.
- NGOs can become collaborating partners of the Program; they can be members of WASH Steering Committee and WASH Technical Teams at various levels.

The Paris Declaration

The Paris Declaration on Aid Effectiveness was announced at a meeting of OECD members in Paris in March 2005. It establishes the responsibility of developed and developing countries for delivering and managing aid in terms of these five principles:

1. **Ownership**: Partner countries exercise effective leadership over their development policies, and strategies and coordinate development actions
2. **Alignment**: Donors base their support on partner countries' national development strategies, institutions and procedures
3. **Harmonization**: Donors' actions are more harmonized, transparent and collectively effective
4. **Managing for Results**: Managing resources and improving decision-making for results
5. **Mutual Accountability**: Donors and partners are jointly accountable for development results

- The effective involvement of HEWs and the Health Development Army are essential for Program success.
- Accountability will increase since the Program will be owned by the Government.
- The role of the JTR and MSF in assessing progress and evaluating the Program will increase.
- Joint participatory planning will be promoted (e.g. kebeles and communities will be involved in WASH planning with assistance from woredas and other service providers). Community ownership of the improved WASH facilities will be encouraged.
- Measures of Program effectiveness will include increasing the effectiveness of groundwater investigations and the efficiency of drilling operations, identifying and implementing measures to reduce unit and per capita costs, improved resource mobilization and coordination among service providers at all levels.

The Program provides the framework for harmonizing Government and donor approaches to planning, procurement, implementation and financing and serves as the platform on which a closer partnership between planners, implementers, development partners and others to achieve common goals can be built.

The WIF provides the framework and guidelines for implementing the Program, which is in turn based on the Growth and Transformation Plan (GTP) and updated resource requirements in the WASH Universal Access Plan (UAP), including the SAP. It is expected that donor funding will to an increasing extent be on-plan and on-budget and channeled through a Consolidated WASH Account (CWA) at federal level. The cornerstone of the Program is the Consolidated Annual WASH Plan (CAP), which includes a budget. Progress in achieving the plan goals will be reported in quarterly and annual progress and utilization reports at federal, regional, city, zone, woreda and town levels.

2.3.4. WASH Policy, Legislation and Regulation in Ethiopia

The Federal Democratic Republic of Ethiopia took the initiative of including protection of public health in the 1995 National Constitution. the constitution in Article 90.1 states that "to the extent the country's resources permit, policies shall aim to provide all Ethiopians access to public health and education, clean water, housing, food and social security". The same constitution in Article 92.1 further states that the "Government shall endeavor to ensure that all Ethiopians live in a clean and healthy environment".

The policy in Article 2, sub-Article 2.1 gives emphasis to the control of communicable diseases, epidemics and diseases related to malnutrition and poor living conditions", Sub-Article 2.2 also stress "the promotion of occupational health and safety", in Sub-Article 2.3 "Development of environmental health". The Health Policy's "general strategies" in Article 3 states the promotion of "intersect oral collaboration" including "accelerating the provision of safe and adequate water for urban and rural populations", "developing safe disposal of human, household, agricultural and industrial wastes and encouragement of recycling", and "developing measures to improve the quality of housing and work premises for health

Following the constitution and the health policy the Food Medicine and Health Care Administration and Control addressed the issue of Waste Handling and Disposal, the need for Toilet Facilities, and Water Quality Control in Proclamation No.661/2009, Article 12, 31 and 30 respectively.

Article 12 states that no person shall collect or dispose solid, liquid or other wastes in a manner contaminating the environment and harmful to health, any wastes generated from health or research institutions shall be handled with special care and their disposal procedures shall met the standards set by the executive organ, and further states the prohibition of discharging untreated waste generated from septic tanks, seepage pits and industries into the environment, water, bodies or water convergences, while Article 31 states that, any institution or organization providing public service shall have the obligation to organize clean and adequate toilet facilities and keep open to its customers, any city or rural administration shall be responsible to provide public toilet and ensure its cleanliness and finally Article 30 states that, it is prohibited to supply water for public consumption from spring well or through pipes unless its quality is verified by the appropriate organizations.

The Ethiopian Water Resources Management Policy (1999) prepared by the Ministry of Water Resources highlights the goal of promoting national efforts for efficient, equitable and optimum utilization of water resources in Ethiopia. To transform policy into action, the National Water Sector Strategy was introduced followed by the Water Sector Development Program (2002-2016).

The Water Resource Management Proclamation No.197/2000 states that water resources are the property of the Ethiopian people and the State. The Proclamation also states that domestic use of water shall have priority over other uses.

3. Institutional Roles

3.1 Institutional Context

3.1.1 Introduction

A unique feature of the WIF is that it has been agreed between four ministries whose roles and responsibilities are further defined in an Memorandum of Understanding (MoU) signed in November 2012, to support an integrated One WASH National Program that addresses the needs of rural, urban and pastoralist communities, schools and health posts in a more integrated manner and reduces the administrative fragmentation of WASH service delivery.

3.1.2 Obligations of Signatory Ministries

The specific roles and responsibilities of the four ministries in implementing the Program are described in the MOU where MoWE, MoH, MoE and MoFED have committed themselves to:

- Assign an appropriate representative to the National WaSH Technical Team (NWTT)
- Establish a WASH Program Management Unit (WPMU) and designate a WASH focal person to liaise between the WPMU and the National WASH Coordination Office (NWCO)
- Evaluate the WASH performance of their respective Ministry in their regular sector performance evaluation and provide a report to the NWTT and NWSC
- Closely monitor, evaluate and support the regions in WASH planning, implementation and reporting
- Incorporate WASH in the regular performance evaluation of individuals assigned and designated
- Prepare and submit to the NWCO an annual WASH Plan of Actions
- Review quarterly, semi-annual and annual reports of their respective Ministries and regional line Bureaus
- Advise and assist respective Bureaus in the establishment of appropriate WASH structures at regional and woreda level
- The MoU also defines major areas of cooperation between the signatory parties. These cover the main aspects of joint program implementation, such as joint planning, resource mobilization, creation of management and coordination structures, quality control and monitoring.

3.1.3 Ministry of Water and Energy

The Ministry of Water and Energy (MoWE) at federal level is responsible for water policy, coordination and monitoring. Implementation is decentralized to regional, woreda and in the some cases community level. In general design and contracting of piped water supply schemes are managed at regional water bureau level, before handing over maintenance responsibility to woredas or towns[11]. Implementation of schemes such as hand-dug wells or spring catchments is managed by the Woreda Water Offices or communities in Community Managed Projects (CMP).

[11] Top-down designed schemes with limited consultation that are then handed over to woredas or towns for O&M without proper preparation are an important issue affecting sustainability of water supply scheme.,

3.1.4 Ministry of Health

The Ministry of Health (MoH) has prepared a Health Sector Development Plan, HSDP IV, to achieve the health MDGs by 2015. The plan, implemen-ted by regional health bureaus, aims to scale up delivery of primary care services through the health extension programme and health clinics at district level. Over 38,000 health extension workers (HEWs) have been trained and deployed to health posts at kebele level in both rural and urban areas. HEWs work with communities and households through members of the Health Development Army (HDA) to promote behaviour change, including use of improved sanitation facilities, hygiene promotion and eradicating open defectaion.

The Health Extension Program

The Health Extension Program (HEP) is an innovative community based health care delivery system aimed at providing essential promotional and preventive health care services. It was introduced in recognition of failure of essential services to reach communities in remote parts of Ethiopia.

HEP services have been customized to meet the needs, demands and expectations of the pastoralist, agrarian and urban population. It is considered as the most important institutional framework for achieving the Millennium Development Goals (MDGs).

Objective of HEP

Shift health care resources from predominantly urban to rural areas, where the majority of the country's population resides;

- Improve access and equity of essential health services at the village and household levels in line with the decentralization goal;
- Ensure ownership and participation by increasing health awareness, knowledge and skills among community members;
- Promote gender equality in accessing health services;
- Improve the utilization of peripheral health services by bridging the gap between communities and health facilities through Health Extension Workers (HEWs);
- Reduce maternal and child mortality and
- Promote an overall healthy lifestyle.

The HEP provides a package of basic and essential promotional, preventive health intervention services in three primary areas:

- Hygiene and Environmental Sanitation
- Diseases Prevention and Control
- Family Health Services

These three packages include services such as:

- Prevention of HIV/AIDS, STDs and TB; malaria prevention and control; first aid emergency measures; maternal, new born and child health; family planning; immunization, nutrition, adolescent reproductive health; excreta disposal; solid and liquid waste disposal water supply; food hygiene and safety measures; healthy home environment; control of insects and rodents; personal hygiene; health education and communication.

3.1.5 Ministry of Education

The Ministry of Education's (MoE) mission is to build an education and training system which assures quality and equity education that aims at producing competent and productive citizens. MoE seeks to improve the capacity and quality of education and training, design and assure standards of efficiency, expand well equipped higher and technical education to ensure productive, equitable, participatory and quality education and training at all levels.

The Ministry of Education has prepared the Education Sector Development Plan, ESDP IV, to achieve the education MDGs by 2015. The plan is implemented through regional education bureaus and address the following:

- A strong improvement in student achievement through a consistent focus on improving the teaching/learning process and transforming the school into a motivational, healthy and child-friendly learning environment.
- Attract unreached and disadvantaged children into schools and ensure that they complete basic education. Without a significant decrease in the drop-out rates in the early grades, universal primary enrolment will never be achieved.
- Strengthen capacity for knowledge creation, in particular in science and technology through an expansion of access to TVETC and HSC and to higher education without sacrificing quality.

3.1.6 Ministry of Finance and Economic Development

The Ministry of Finance and Economic Development (MoFED), besides implementing the National Development Program and determining and allocating budget to all public institutions, is responsible for implementing efficient ways of utilizing resources in both federal and regional governments.

MoFED has recently undertaken a reform of the PFM system by implementing the Integrated Financial Management Information System (IFMIS). IFMIS is an integrated Financial Management Information system that will generate accurate, accessible and timely government-wide financial information and reports, support public bodies and regions in improving the quality of PFM.

MoFED, as the most recent signatory of the MoU and WIF, will be responsible for the financial management of the Program using its experience in SWAps in other sectors. As the national coordinator of GTP implementation, MoFED will play an important role in allocating and channeling resources and monitoring fund utilization.

Further information on the roles of the Program's four signatory ministries is shown in Annex 1.

3.1.7 Water Resources Development Fund

GoE created the WRDF in 2002 as a semi-autonomous entity to promote development of viable and sustainable urban water supply and sanitation services throughout the country. WRDF provides loans to autonomous entities (TWSSEs) to assist them in implementing projects on a cost recovery basis. Guidelines have been prepared to establish criteria for selection and appraisal of projects and managing the loans. According to these guidelines:

- Borrowers must contribute at least 20% (in the case of WS&S) of total project costs from their own sources;
- Technical projects are appraised following a detailed procedure;
- Loans are usually between Birr 3 million and Birr 300 million, with a repayment period of from 5 to 25 years, including a grace period of up to 5 years;
- Interest rates are established by WRDF's Board from time to time. They should cover the average cost of funds plus the operating costs of the institution.

The operational activity of the Fund eventually started in 2004. WRDF has participated in a number of financing programmes Through this experience, WRDF has had the opportunity to work with several oprganizations: the Federal Government, World Bank (IDA), African Development Bank (ADB), the Arab Development Bank (BADEA), the European Investment Bank (EIB), the EU ACP Water Facility and Italian bilateral cooperation.

Although many financial agreements between GoE and international donors are loans, the subsequent transfers from the GoE to WRDF are managed as grants. The Fund is not required to pay GoE back , which covers the debt service from other resources. Instead, repayment loans provided by WRDF by municipalities will be retained in a revolving fund to be used for new financing.

Since its creation, WRDF has not been used as a real financing institution. Most programs supported by ADB, BADEA, IDA, and EIB-EU have been managed by Program Implementation Units (PIUs) located outside WRDF. WRDF has paid project costs that were not directly covered by donors and to sign loan agreements with the towns.

WRDF's collabortaion with Italian Cooperation is the first one with an international donor where WRDF is the implementing agency.

Among the main constraints facing the WRDF are:

- An increasing demand for loans facing limited financial resources.
- Large increases in project costs. Projects proposed by towns are often overdimensioned. These proposals need to be reviewed, scaled down and phased to match the limited capacity to repay the loans.
- Long delays in project implementation.
- Lack of contract administration capacity, both in towns and in the WRDF
- Without sufficient autonomy to manage its own operations, WRDF uses GoE's administrative rules. These rules do not match the Fund's needs, i.e. accountability based on annual budget allocations, uncompetitive salaries, inadequate logistical support, etc.

3.2 Civil Society Organizations

3.2.1 Introduction

Implementing a national Program requires a substantial increase in implementation capacity and resources. Civil Society Organizations (CSOs) also play a key role in the sector. It is estimated that there are over 100 CSOs that work with WASH activities throughout the country. CSOs play an important role in delivering water and sanitation services, hygiene promotion, piloting new approaches, reaching remote areas and groups, and supporting learning and knowledge sharing. The valuable contribution of CSOs is recognized in the WASH Implementation Framework (WIF), where CSO projects are included as one of the four implementation modalities.

3.2.2 Organization

CSOs working with WASH activities have formed the Water and Sanitation Forum (WSF), which meets regularly. The WSF has an executive body and a secretariat, which presently are World Vision and the Consortium of Christian Relief and Development Associations (CCRDA), respectively. The WSF currently has 56 members. WASH CSOs are also represented on a number of Task Forces in MoWE, MoH and MoE, as well as membership in WASH-related working groups under the Development Assistance Group (DAG).

The Ethiopian WASH Alliance was established in 2012 with membership including AMREF Ethiopia, RiPPLE, WaterAid Ethiopia, HoAREC, HCS, AFD, and MetaMeta. Also, some Ethiopian WASH CSOs are affiliated with the Millennium Water Alliance (MWA), an association of international nongovernmental organizations with expertise in rural and peri-urban water supply, hygiene education, and sanitation promotion.

In the regions, WASH CSOs collaborate with sector bureaus by participating in technical working groups and forming WASH Forums to coordinate planning and implementation. CSOs participating in emergency WASH activities are shown in Annex 2.

3.2.3 Program Roles

CSOs play a number of important roles in Program implementation. CSOs participate in sector reviews and evaluations such as the semi-annual Joint Technical Review (JTR), an annual Multi-Stakeholder Forum (MSF), regular meetings of the Forum for Learning on Water and Sanitation (FLOWS) which is a collaborative effort between MoWE and RiPPLE. Also, the WASH Media Forum was established in 2008 as a platform for discussion between national and regional media and WASH organizations and to increase public awareness of WASH activities and objectives. WASH CSOs also implement WASH projects and undertake studies, evaluations and other activities for international multilateral and bilateral organizations such as the European Union, UNICEF, DFID and others.

CSOs support implementation of the Program at all levels, from federal level to communities. This support will be included in consolidated WASH plans at all levels and reported in quarterly and annual consolidated progress and utilization reports. The roles of CSOs will vary, but their resources, activities and outputs are will be included under the umbrella of the One WaSH Program. CSOs can be engaged as WSGs, CFTs or to undertake studies, monitoring, assessments or other activities.

As an important planning activity WASH ministries at the federal level, regional and zonal bureaus, woredas and towns will carry out a resource mapping exercise to identify WASH CSOs working in their areas. This will be the responsibility of the WASH Coordination Offices at the various levels, and in the case of woredas and towns, the responsibility of the woreda or town WASH Teams. CSOs will be requested to provide information about the scope, location, type of interventions and number of facilities to be provided as well as the resources available for implementing WASH activities. This information will be maintained by the unit responsible for coordination at each level and updated at least quarterly.

3.3 Private Sector

The private sector also plays a key role as implementors of Program activities, as most construction of water supplies is undertaken by private contractors and artisans. There are a limited number of private drilling companies in Ethiopia who are not able to meet the high and growing demand for drilling and groundwater development in the country. There are also Regional State Water Enterprises who bid for contracts for drilling and construction of water supplies like private enterprises..

The Ethiopian Association of Hydrogeologists was established in 2006. The objectives of the association are (i) to promote and advocate hydrogeological sciences in Ethiopia, (ii) to create a platform of discussion, information and collaboration for groundwater professionals, (iii) to serve the purpose of using groundwater for development; (iv) to assist the expansion of groundwater education, study and research in Ethiopia, and; (v) to collaborate with local and international associations with similar objectives. There are a total of 115 members rom government institutions, private sector, academic institutions, UN agencies etc.

Banks and microfinance institutions (MFIs) can also play a useful role in providing financial services to communities, particularly for CMP and self-supply activities. These service include financing through WASHCOs for procurement and construction, maintenace, rehabilitaton/augmentation, replacement/ reinvestment, insurance, and credit to SMEs for providing WASH services and suppliess. In some regions O&M insurance schemes have been started using MFIs, a development which should be closely followed for possible replication

The private sector also provides consulting services for studies and designs in construction supervision for urban waters uppply schemes. Private suppliers, artisans and other service providers will have an increasingly important role to play in the Program in establishing and servicing supply chains for WASH products, spare parts and repair services and in supporting self supply activities.

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

3.4 Community Organizations

At community level, the two main structures relevant to implementation of the Program are WASH Committees (WASHCOs) and in some cases associations of WASHCOs, who are expected to plan, manage, operate and maintain water points, and the Health Development Army, which has already been described.

Community ownership and management of the improved WASH facilities is important for enhancing the impact and sustainability of the Program's interventions. Projects such as the WSSP, COWASH and those

implemented by a number of NGOs have developed strategies and procedures for capacity development at community level, including training and manuals which will be a useful resource for the Program.

Legalization of WASHCOs has lagged behind in a number of regions. This issue will be addressed by the Program as part of its efforts to create viable and accountable WASH institutions at all levels. Legalization or formal recognition of WASHCOs can take various forms, including registration with the woreda administration or kebele development committees, rural water supply and sanitation federations as in SNNPR, water user associations, or even a firm, as in the case of the Janamora Women Water Supply and Management Association in Amhara Region.

Members of the Health Development Army (HDA) working with HEWs, will be important in promoting sanitation and hygiene practices among households in communities. HEWs and the HDA have been assigned 16 tasks, of which 7 are WASH-related.

3.5 National WASH Inventory

The National WASH Inventory (NWI) represents a large and important step forward in the understanding of the water supply and sanitation situation in Ethiopia. The NWI is a standard, national survey of WASH coverage in Ethiopia. The NWI was a major undertaking with a total cost of some 200 million ETB[2]. Financing of the NWI came from federal and regional governments and development partners. The NWI was implemented by the National WASH Inventory Project Office (NWIPO) at the Ministry of Water and Energy, during 2010-11. All regions and cities were included in the NWI, except for Somali Region which will be carried out by MoWE in FY 2013-14 using mobile phones to transmit and collect information.

The NWI involved visiting all community water schemes in rural areas and all urban water supply systems in the eight regions it covered. Each water point was identified according to its coordinates and information was collected, including the number of users in 730 woredas and 16,000 kebeles in the country, except for Somali Region. The NWI also included a household census of sanitation and hygiene undertaken by Health Extension Workers. Information on WASH at schools and health institutions was also collected. NWI results were officially released by MoWE to WASH stakeholders in April 2013.

Remaining issues revolve around the accuracy, completeness and accessibility of the NWI data. The NWI data is stored and maintained at MoWE and will be accessible through the WASH MIS which is expected to be rolled out to regions and woredas in phases starting in FY 2013-14.

NWI data is currently in an MS Access database designed with the support of SNV, UNICEF and Hawassa University to enable data entry at regional level. It is an intention to be able to produce woreda report cards containing basic WASH data for use in prioritizing and targeting interventions. There is also an intention to make NWI data available through the *woreda net*. To facilitate the planned annual updating of the NWI data and its use to produce maps, it is important that the data is accessible at regional, zonal and woreda levels in Excel format.[12]

4. Program Description

4.1 Introduction

This Program Document operationalizes the principles, organization and procedures contained in the MOU and WIF through a coherent set of activities aimed at achieving the GTP targets for water supply and sanitation in Ethiopia.

[12] An example of maps produced using NWI data can be seen in Exhibit 1.

To achieve this aim, the Program makes use of updated data from the National WASH Inventory (NWI) from 2011, updated planning models and data received from the regions and other sources to establish a baseline for access to water supply and sanitation in rural and urban areas in the country. The Program also uses information from a recent capacity assessment[13] to identify human and physical resources, population projections from CSA and updates of physical and financial models used and tested in the preparation of the WASH UAP. The Program budget includes sectoral allocations to water, health and education and addresses factors affecting the functioning of institutions and management, including identifying human, technical and financial resources requirements to meet GTP targets.

4.2. Program Objectives

4.2.1 Development Objective

The Program's Development objective is to contribute to improving the health and well-being in rural and urban areas by increasing water supply and sanitation access and the adoption of good hygiene practices in an equitable and sustainable manner.

4.2.2 Intermediate Objective

The intermediate Objective of the Program is to achieve increased coverage of water supply and sanitation in rural and urban areas in Ethiopia in line with the GTP 2010-2015.

4.3 Guiding Principles

The Program is guided by the Memorandum of Understanding (MoU) and WASH Implementation Framework (WIF), signed by the Federal Ministries of Water and Energy, Health, Education and Finance and Economic Development in November 2012 and April 2013, respectively. The following four guiding principles of the Program as stated in these documents are:

1. Integration of water, health education and finance
2. Alignment of partners' planning and management systems and procedures with those of GOE
3. Harmonization of partners' approaches and activities
4. Partnership between implementing parties

4.4 Program Pillars

The Program's activities will be organized around three domains or pillars:

1. Enabling Environment/Good Governance
2. Maximizing availability and efficient use of human and financial resources to create demand for better WASH services
3. Capacity development for improved delivery of WASH services

A brief description of these pillars follows:

4.4.1 Enabling Environment/Good Governance

An Enabling Environment and Good Governance form the foundation and prerequisite for the Program's success. It includes legal instruments, policies, strategies and frameworks, institutional arrangements, formal agreements, the commitment and integrity of personnel at all levels and access to information. This pillar also includes compliance with agreed norms and standards, establishing WASHCOs as legal entities and contractual relations between implementing parties.

[13] Evaluation of WASH Capacity Building Interventions in Ethiopia, Final Report, June 2013.

The foundation for an enabling environment and good governance has been formalized in an MOU and WIF describing the commitments of four ministries, MoFED, MoWE, MoH and MoE, to support implementation of the Program.

4.4.2 Maximizing availability and efficient use of human and financial resources to create demand for better WASH services

The emphasis is on efficient use of resources rather than only the availability of resources. During consultations with the regions and cities, human resources and capacity were mentioned more frequently than funding and other resources as constraints to effective implementation of WASH activities on the ground.

Technical and logistic resources and their efficient use are also important to enhance the performance and effectiveness of Program implementation.

Using the principle, "Everything counts, count everything.", resources available from all sources, including CSO, emergency WASH programs and self-supply activities will be considered and included when determining resource availability, gaps and needs.

Creation of demand for better WASH facilities and services will be promoted through targeted information and communication activities, advocacy and motivation at all levels, offering appropriate and affordable technical solutions, services and products. Here the work of Health Extension Workers and Health Development Army at community level will be essential for achieving results on the ground.

4.4.3 Capacity development for improved delivery of WASH services

Capacity gaps at all levels have been identified as one of the most pervasive threats to the successful implementation of the Program. Therefore, capacity development of IPs at all levels will receive priority attention by the Program. The Program will support the development of human resources, organizations and systems and logistics and equipment.

The ultimate purpose of One WASH and an important indicator of its success is its ability to deliver better WASH services to people in rural and urban areas in Ethiopia. Services include improved water supply, sanitation and hygiene promotion for communities, households and institutions, effective supply chains for WASH products and services, skills training and logistic support to Program managers and implementers.

Due to the substantial gap in coverage and resources, a mass mobilization strategy will be necessary to achieve the GTP WASH targets. In recognition of this, MoWE has prepared a manual on mass mobilization to support implementation of the UAP[14]. To support this approach, the Program will support training of the Health Development Army working at community level, training drilling and civil contractors, and mobilization of NGO resources and the private sector through promotion and scaling up of self-supply.

4.5 Phasing

4.5.1 Introduction

The Program duration will be seven years, implemented in two phases; Phase I from July 2013 to June 2015 and Phase II from July 2015 to June 2020. There can be changes in important GoE policies, strategies and plans when the present GTP, UAP and MDGs end in 2015. Phasing will allow for these changes to be accommodated in a second phase. Before the end of Phase I, during the JTR in early 2015, a comprehensive

[14] Implementation Manual for Ignition of Mass Mobilization on the Universal Access Plan for Water and Sanitation Program, Ministry of Water and Energy, Addis Ababa, August 2008.

review of the Program's progress and achievements during Phase I will take place and any adjustments/revisions required for Phase II will be identified.

4.5.2 Phase I

Phase I will be a marked by increasing harmonization and alignment among and between development partners and GoE, during which WASH organizations and procedures will be fully established and become operational at all levels. Also during Phase I, partners, including CSOs, will be expected to increasingly align their targets, plans and activities with the Program. New WASH programs/projects or new phases of existing WASH programs/projects will be expected to be aligned with the Program's principles, approaches and plans.

Due to the limited duration of Phase I (two years), the limited finances available during the first year of the Program, and limits to construction of urban water supplies and drilling capacity imposed by the lack of skilled technicians, contractors and equipment, it will be necessary to prioritize low-cost water supply facilities that can be constructed by local artisans through community managed projects, self supply and by NGOs. The guiding principle of Phase I will be, "some for all, not all for some", meaning that unserved areas, communities and households will receive at least a basic level of water supply and sanitation services. Focusing on lower-cost supply options that can be constructed by artisans and managed by communities will also mean that time spent on lengthy procurement will decrease.

The limited time and funding, set against ambitious targets, require that each Birr spent result in additional population served by safe water supply and sanitation facilities. This relationship can be expressed as, Marginal Coverage Increase per additional unit of investment spent, or MCI. This means that during Phase I, unserved people and institutions will be targeted and receive higher priority than those who already have a basic level of service but desire higher service levels.

Unit costs are to be treated as average costs within a region rather than absolute limits. Benchmark average unit rates will be established based on a comparison of costs from a sample of recent contracts. Unit costs for the most expensive water supply interventions, i.e. drilling and construction of urban water supplies, will be the subject of efforts to increase the efficiency of drilling (i.e. reduced number of negative boreholes) and reduce fixed costs by packaging larger lots of boreholes in the same area in one contract), and the cost of urban water supply by promoting the increased use of turnkey contracts, e.g. by combining design, construction and supply contracts. During Phase I, capacity building activities will receive high priority, while construction of water supply and sanitation facilities will continue in line with existing implementation capacity and budget utilization levels. Capacity building activities will focus on supporting regions, zones, towns, woredas, kebeles and communities to meet implementation "readiness" criteria and to establish effective contract management and supervision procedures and robust monitoring, reporting and data management systems.

4.5.3 Phase II

Phase II of the Program is likely to follow one of two paths, i.e. continuity or redesign. In the continuity path, Phase II will be a continuation of the institutional arrangements and implementation modalities from Phase I with adjustments agreed at a comprehensive Mid-term Review in early 2015. Main activities will consist of completing work began in Phase I and reaching any unachieved targets. Higher service levels may also be considered, contingent on funds and other resources available. Some capital expenditure for construction of buildings, laboratories and other facilities, including urban sewerage, has been included in Phase II.

In the redesign path, Phase II would have different policy priorities, targets, institutional roles and responsibilities and/or implementation modalities. Consideration can be given to broadening the Program's scope to include such related activities as watershed and water resources management, productive uses of

water, environmental protection, climate resilience, etc. Any such redesigns would be identified and agreed at a Mid-term Review to take place in early 2015.

Rural Water supply

An indicative plan for Phase II can be prepared using guidance from the national WASH Steering Committee. This plan will reach additional people and cover population growth between 2016 and 2020 including improving existing service levels.

Urban Water supply

Urban water supply indicative plans for Phase II could consider increasing service levels from public taps to yard taps and yard taps to house connections by 2020. The 2015 regional WASH plans will be used as the basis for identifying requirements for Phase II.

Urban Sanitation

In Phase I towns with population greater than or equal to 50,000 will be specifically targeted. Phase II can include more towns with population of less than 50,000. Low-cost decentralized wastewater schemes can also be considered for regional capitals.

Rural, peri-urban and institutional sanitation

In Phase II construction and capacity development activities will continue. Institutional water supply and sanitation and some communal sanitation interventions could also be planned.

A New Era: Post-2015 Targets

The four targets below include both interim and final targets and indicators and have received broad support among experts in the sector.

Target 1: By 2025, no one practices open defecation and inequalities in the practice of open defecation have been progressively eliminated.

Target 2: By 2030, everyone uses a basic drinking water supply and handwashing facilities when at home, all schools and health centres provide all users with basic drinking-water supply and adequate sanitation, handwashing facilities and menstrual hygiene facilities and inequalities in access to each of these services have been progressively eliminated.

Target 3: By 2040, everyone uses adequate sanitation when at home, the proportion of the population not using an intermediate drinking water supply service at home has been reduced by half, the excreta from at least half of schools, health centres and households with adequate sanitation are safely managed and inequalities in access to each of these services have been progressively reduced.

Target 4: All drinking-water supply, sanitation and hygiene services are delivered in a progressively affordable, accountable and financially and environmentally sustainable manner

Source: Progress on Sanitation and Drinking Water - 2013 update, JMP, WHO/UNICEF, 2013.

4.6 Risk Assessment

The risk analysis and rating for the Program is shown below. Potential aspects of the Program that may pose a reputational risk for partners, GoE or others include national programs operating in resettlement areas. This places additional onus on ensuring that social safeguards are adequate for marginalized groups to ensure no reputational risk.

Major risks that may affect achievement of the Program's development objective and results are summarized in the following table, along with measures for minimizing or mitigating the identified risks.

Table 4-1: Preliminary Program Risk Assessment[15]

Description	Proposed Mitigation Measures	Rating
Targets may not be achieved due to time, availability of funding and capacity constraints, including those in the private sector.	Program interventions should target unserved areas, prioritize providing basic levels of service levels and strive to control unit and per capita costs.	S
Lack of understanding of/commitment to the Program's approach to targeting and prioritizing interventions, community involvement in technology selection based on costs and affordability.	Translation and wide dissemination of key documents such as the WIF, MOU, NWI data and this Program Document followed by orientation workshops and training at all levels. Application of readiness criteria to ensure that conditions for successful implementation are in place before construction starts. Relevant staff will receive orientation on OWNP targets, strategies and procedures. Compliance with procedures and applicable standards will be closely monitored.	S
High turnover of key staff in implement-ting organizations causes delays and lack of continuity.	Additional personnel will be trained in relevant skills at TVETCs, HSCs and universities. In-service training will be offered to relevant staff in planning, procurement and monitoring, including data management.	S
Public and/or partners' procurement rules and procedures cause serious delays in implementation.	Close monitoring of procurement processes, pack-aging contracts to make works more attractive. Use of standard bidding and contract documents.	M
Regional bureaus, woredas and towns face competing priorities, fail to assign ade-quate resources to implement Program activities and do not collaborate with all relevant stakeholders and partners.	Higher-level support will be sought from ministers, heads of regional government as well as politicians and local leaders. Monitoring by partners, including JTRs and MSFs, will also include this indicator.	M
Environmental risks, including degradation and growing competition between water uses threatens water resources and the sustainability of water schemes.	Promote stronger linkages with watershed management and water conservation interventions to protect sources and catchments. Sensitize users to the importance of maintaining protected buffer zones around water sources.	M
Difficulty in tracking availability and utili-zation of GoE, donor and CSO funds may be a constraint to implementing the Joint Financing Agreement (JFA).	Quarterly financial reports showing budget availability, disbursements, expenditure and budget utilization will be prepared by MoFED.	S

Key: S= Significant, M=Moderate

There are a number of areas which need further improvement, these have improved compared to previous quarters but will be addressed by the Program. These include the need for continuous improvement of the

[15] This assessment does not include potential fiduciary risks, which are the subject of a separate Fiduciary Risk Assessment being undertaken by a group of Development Partners.

quality of contract management and supervision, improvement in timely financial reporting and ensuring that the amount of cash balances and advances are kept down to that needed for maintaining timely implementation.

Although the risk in the WASH sector has been assessed as low in Ethiopia, it is globally recognized that there are significant risks associated with large scale procurement and civil works, particularly in the context of substantial government staff turnovers. Mitigating measures to manage financial risk include:

- Assessment of barriers and operating environment of private sector contractors and enterprises
- Focus on capacity building of implementation partners in contract management and construction supervision
- Supervision supported by post-construction checks/sustainability checks
- Capacity strengthening in Public Financial Management at all levels
- Strengthening M&E systems and procedures at all levels
- Through PBS work with the Construction Sector Transparency Initiative (COST Ethiopia), increase transparency in tendering and procurement processes through a public disclosure program

Additional information on risks associated with the Program can be found in Annex 3.

4.7 Safeguards

Following is a description of the safeguards triggered by the Program:

Table 4-2: Description of Safeguards Triggered by the Program

Safeguard Policy	Description
Environmental Assessment	Risks consist of short-term environmental impacts related to reconstruction/rehabilitation works (dust, noise, improper construction waste disposal including hazardous materials and accidental spillage). Also, there are environmental risks related to improper wastewater treatment, sludge management and disposal as well as water quality. An Environmental Management Plan (EMP) that includes the potential impacts of wastewater effluents and sludge generated will be prepared. The potential effects of climate change/variability on water sources and availability pose a significant risk to the sustainability of water supplies, particularly in lowland areas of the country. (See Annex 4.) Ways to improve the resilience of water supplies to climate change/variability will be identified in the EMP and implemented by the Program.
Involuntary Resettlement	Implementation of the Program, in particular the urban WASH component, will require land acquisition that can result in the loss of some productive assets. Works relate to rehabilitation and expansion of existing water infrastructure, with development of new transmission and distribution systems. Rehabilitation and expansion of water supply networks may require temporary or permanent acquisition of land in residential or commercial areas. A Resettlement Policy Framework (RPF) describing legislation and

Safeguard Policy	Description
	regulations and due process for compensation if land acquisition is needed or productive assets are lost. Public consultations on and disclosure of the RPF will take place.

4.7.1 Special Conditions

The following conditions apply to the start-up and implementation of the Program:

Commencement of the Program is contingent on the successful outcome of a Fiduciary Risk Assessment (FRA) undertaken by Development Partners who have expressed an interest in contributing to the Consolidated WASH Account.

A positive outcome of a GoE-partner appraisal is a condition for approval of the Program by GoE and for establishing the Consolidated WASH Account.

The Program area includes locations with harsh and sometimes hazardous physical conditions and areas with potential security concerns, e.g. areas bordering Somalia and Eritrea. These conditions, combined with the remoteness of these areas, can negatively affect the willingness of contractors and others to work in these areas.

Agreements, programs/projects and contractual obligations that extend beyond 2013 will be allowed to continue until they expire, a new phase begins, or are terminated or revised by mutual agreement of the parties.

4.8 Components

The Program will include the following components:

Component 1: Rural and Pastoral WASH, including rural and peri-urban sanitation - Estimated cost: USD 1.03 billion for water supply and about USD 0.4 billion for sanitation and hygiene. Activities will include construction of 55,865 new conventional water points and water supply schemes and rehabilitation of 20,010 existing schemes to achieve the GTP target of 98.5% access in water supply and to reduce non-functionality of water supply facilities to 10%. Furthermore, 42,529 household dug wells and community dug wells are expected to be constructed by households and communities through self supply enhancement program.
Activities and corresponding costs are shown in Table 4.3.

Table 4-3: Costs by Activity - Rural Water Supply

Activity	Amount (USD)	%
Construction of water supplies in communities	687,503,612	60.8%
Rehabilitation of water supplies in communities	81,893,286	7.2%
Study and Designs	64,985,885	5.7%
Water supplies at schools	82,166,135	7.3%
Program Management	64,375,043	5.7%
Health Posts/Centers	48,972,799	4.3%
Catchment management/environmental safeguards	30,566,023	2.7%
Capacity Building	25,653,109	2.3%

Post-construction support	22,025,106	1.9%
Water Quality Monitoring, Water Safety and Fluoride Mitigation	12,355,970	1.1%
Enhancing self Supply	8,598,098	0.8%
TA in Communication Strategy, Media and Materials	1,001,940	0.1%
TA in Supply Chain Development	235,163	0.02%
TA in M&E systems and database management	227,966	0.02%
TA in Pastoralist WASH strategy, approaches and monitoring	95,681	0.01%
Total	1,130,655,816	100%

Water quality testing of the source prior to distribution is the responsibility the regional water bureaus, while monitoring water quality during distribution and use is the responsibility of regional public health laboratories. An amount of USD 11,415,542[16] is allocated to support these laboratories. Fluoride mitigation, which is a serious issue in the rift valley, will be carried out by MoWE and regional water bureaus at an estimated cost of USD 940,428.

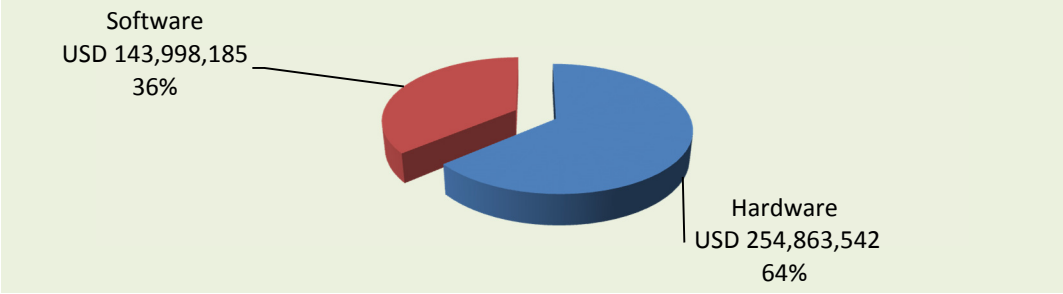
Sanitation activities include motivating households and supporting institutions to improve access to improved latrines. HEWs and members of the HDA will be instrumental in achieving sanitation and hygiene improvements at household level.

Organizing a functional HDA requires establishing health development teams of up to 30 households in the same neighborhood. Health Development Army is further divided into smaller groups of six members commonly referred to as 1-5 networks. The HDA are a valuable asset in the implementation of hygiene and sanitation activities along with the health extension workers.

Implementation of the Pastoral WASH sub-component will require close coordination and collaboration with emergency WASH programs in pastoralist areas and organizations that work with pastoralists to avoid duplication of effort and to ensure efficient use of available resources.

Some 36% of the proposed budget for sanitation in Component 1 is allocated to software activities, while 64% is allocated to hardware support as shown in Figure 4.1 below.

Figure 4-1: Distribution of Software and Hardware Activities – Rural and Peri-urban Sanitation



Component 2: Urban WASH- Estimated cost: approximately USD 786 million for urban water supply and USD 95.7 million for sanitation improvements in urban areas. Main activities include study and design, capacity building and management, environmental safeguards and resettlement, immediate service

[16] Harari Region and the city of Dire Dawa are expected to use the same laboratories.

improvements and expansion and augmentation of water supply in cities and towns. Urban sanitation interventions will include desludging equipment and facilities, management of wastewater and construction of public toilets. In Addis Ababa, expansion of the existing sewerage network is also included in Phase I.

The following tables show the financial requirement for urban water supply and sanitation by activity.

Table 4-4: Urban Water Supply – Financial Requirement by Activity (USD)

No.	Activity	Requirement (USD)	%
1	Construction of water supplies	652,530,649	79%
2	Study and design	15,604,974	2%
3	Immediate service improvements	27,516,353	5%
4	Environmental safeguards	11,792,723	3%
5	Program Mgt./Capacity building	78,618,150	12%
	Total	**786,062,849**	**100%**

Table 4-5: Urban Sanitation – Financial Requirement by Activity (USD)

No.	Activity	Requirement (USD)	%
1	Public Toilets	47,568,132	49.7%
2	Sewerage Expansion	29,515,286	30.9%
3	Vacuum Trucks	7972967.786	8.3%
4	Program Mgt and Capacity building	4,349,266	4.6%
5	Urban Health Extension Work	4,349,266	5%
6	Sludge drying Bed	1,928,931	2.0%
	Total	**95,683,849**	**100%**

Component 3: **Institutional WASH -** Estimated cost: USD 545.7 million. Activities include support to improving water supply and sanitation facilities and hygiene practices at health institutions through regional and city health bureaus, and schools through regional and city education bureaus. Regional/City water bureaus may provide technical assistance in the design, construction and supervision of water supply systems in institutions on request from regional health or education bureaus. The indicated amount includes 11,415,542 USD to be used for water quality monitoring. Doing so is expected to increase economy of scale and ease out administration arrangements.

Component 4: Program Management and Capacity Building - Estimated cost: USD 90,028,152 for rural WASH program management and capacity building and 78,618,150 for urban WASH program management and capacity building. Furthermore technical assistance in self supply, supply chain, pastoral WaSH, M&E will be provided at a cost of USD 10,158,848. This component includes support to improve skills and capacity of WASH organizations and implementing parties at federal, regional/city, woreda/town and kebele and community levels to plan, manage and monitor Program activities as well as strengthening M&E capacity at all levels and support to qualitative research and studies. This will be done through provision of training, equipment, tools, and, where required, software for monitoring and reporting, GIS and accounting and billing systems and post-construction management and technical support.

Capacities of TVETCs and HSCs to provide relevant training to WASH technicians will be enhanced at an estimated cost of USD 11,977,590 through support to training-of-trainers, curriculum development and workshop and laboratory equipment. The Ethiopian Water Technology Institute will be used to train WASH professionals at an estimated cost of USD 3,655,300.

4.9 Program Targets and Costs

Achieving GTP targets will require that an additional 26.4 million rural and 4.4 million urban inhabitants gain access to safe drinking water, as well as 22,342 primary schools, 643 secondary schools and 7,772 health posts/centers.

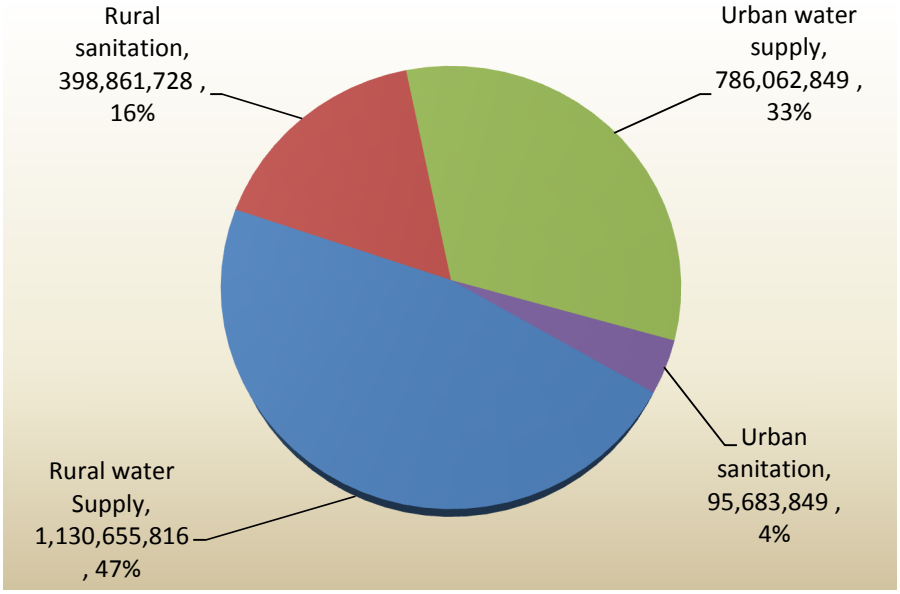
For sanitation, an additional 6,122 schools, 7,037 health posts/centers will need access to improved sanitation facilities. Rehabilitation of sanitation facilities in 15,122 schools and 7,141 health posts are required.

Increasing national water supply coverage to 98.5%[17] requires the provision of 55,865new conventional and 20,010 rehabilitated water points in rural and peri-urban areas, respectively, and 777 new, or expanded pipe systems in towns. Furthermore, 42,529 household dug wells and community dug wells are expected to be constructed by households and communities through self supply enhancement program in rural areas.

Increasing national sanitation coverage from 68.5% to 100% requires construction of 6,724,676 household and 6,122 school latrines, 7,037 health post/center latrines and the extension of the sewerage system in Addis Ababa. Also, 15,122 latrines in schools and 7,141 latrines in health posts/centers need to be rehabilitated.

Achieving GTP targets for water supply and sanitation access will require a total investment of USD 2.41 billion. The distribution of funding required by major program component[18] is shown in Figure 4.2 below.

Figure 4-2: Financial Requirement by Major Program Component (USD)



[17] This figure is adjusted from 69.6% to 67% as per data obtained from regions and checked for credibility by OWNP consulting team and NWCO.

[18] Institutional and pastoral WASH are included in the requirements for rural and urban WASH components.

5. Readiness Criteria and Targeting

5.1 Introduction

To ensure that there is an enabling environment that will promote effective and efficient implementation and support the sustainability of constructed facilities, "readiness" criteria are proposed at all levels. The readiness criteria are intended to be fulfilled before disbursement of funds for procurement of works and physical implementation takes place.

5.2 Readiness Criteria

Following are the proposed readiness criteria at various levels:

Federal Level

- One WASH organizations established, staffed and operational in participating ministries
- Fiduciary risk assessments concluded and recommendations addressed
- Appraisals concluded with positive results
- Consolidated WASH Account established and operational at MoFED
- Consolidated One WASH Program approved
- Budget availability for Year 1 approved by MoFED and partners
- Separate budget line for sanitation and hygiene activities included in annual budgets
- NWI data accessible to all relevant parties
- M&E staff and procedures with agreed monitoring indicators in place
- Agreed systems for implementing social and environmental safeguards established
- Financing Agreement between partners and Government signed
- First tranche of Partner's contributions received by MoFED

Regional Level

- Verification workshop held
- Consolidated Annual WASH Plan and budget prepared
- MOU between four bureaus signed
- WASH organizations established, staffed and operational according to the WIF
- Budget for WASH activities approved, including Emergency WASH activities in some regions
- Separate budget line for sanitation and hygiene included in annual budgets
- Zonal WASH offices/command posts established where required in larger regions
- M&E staff and procedures with agreed monitoring indicators in place
- NWI data accessible to all relevant parties

Zonal Level (in larger regions)

- Zonal WASH organization/command post established
- Annual WASH budget confirmed with separate budget line for sanitation and hygiene
- Consolidated Annual One-WASH plan approved
- M&E staff and procedures with agreed monitoring indicators in place
- NWI data accessible to all relevant parties

City/town Level

- Consolidated Annual WASH Plan prepared and approved
- One WASH organizations established, staffed and operational
- Separate budget line for sanitation and hygiene included in annual budget
- M&E staff and procedures with agreed monitoring indicators in place
- NWI baseline data available and accessible to all relevant parties

Woreda Level

- Agreement on contributions of parties to the Program, including a consolidated annual plan and budget signed between partners and woreda government
- One WASH organizations established, staffed and operational
- Woreda WASH plans prepared and approved by the woreda council
- Separate budget line for sanitation and hygiene included in annual WASH budget
- M&E staff and procedures with agreed monitoring indicators in place
- NWI data accessible to all relevant parties

Kebele Level

- Consolidated WASH plan and budget approval by Kebele Chairman and Council

Community Level

- WASHCO formally recognized and registered at kebele or woreda level with gender-balanced membership
- WASHCO elects officers
- One WASH annual plan approved by community and WASHCO members
- WASHCO opens a bank account for community contributions for O&M
- Contributions from users collected and deposited in the WASHCO's bank account

5.3 Targeting and Equity

The Program seeks to reduce regional and social disparities in access to safe drinking water and improved sanitation. Doing this requires identifying and targeting areas with low access to safe water or improved sanitation according to the National WASH Inventory (NWI), which may be woredas, urban kebeles or other areas[19]. Gender disaggregated indicators will be used where relevant to track gender equity in roles and benefits. In addition, acute water and sanitation "hot spots"[20] will be identified for priority attention. In some cases, WASH hot spots will be addressed by Emergency WASH activities.

In areas receiving humanitarian assistance, mainly in the eastern part of the country, but also including a few woredas in Benshangul Gumuz near the border to Sudan, hot spot woredas have already been identified, where it is estimated that over 2 million people are affected by WASH-related hazards[21].

The Program will use both NWI results and hot spots to identify and prioritize WASH interventions. This will require close coordination between the Program and various humanitarian organizations providing

[19] See Annex 1 for maps of rural water supply and sanitation access by woreda using NWI data.

[20] Examples of WASH "hot spots" include areas where people have been relocated, such as the Tendaho Sugar Factory near Semera in Afar Region, where it is reported by the Regional Health Bureau that over 12,000 laborers from the highlands were living without adequate sanitation facilities and practicing widespread open defecation.

[21] OCHA, Addis Abba, 2013.

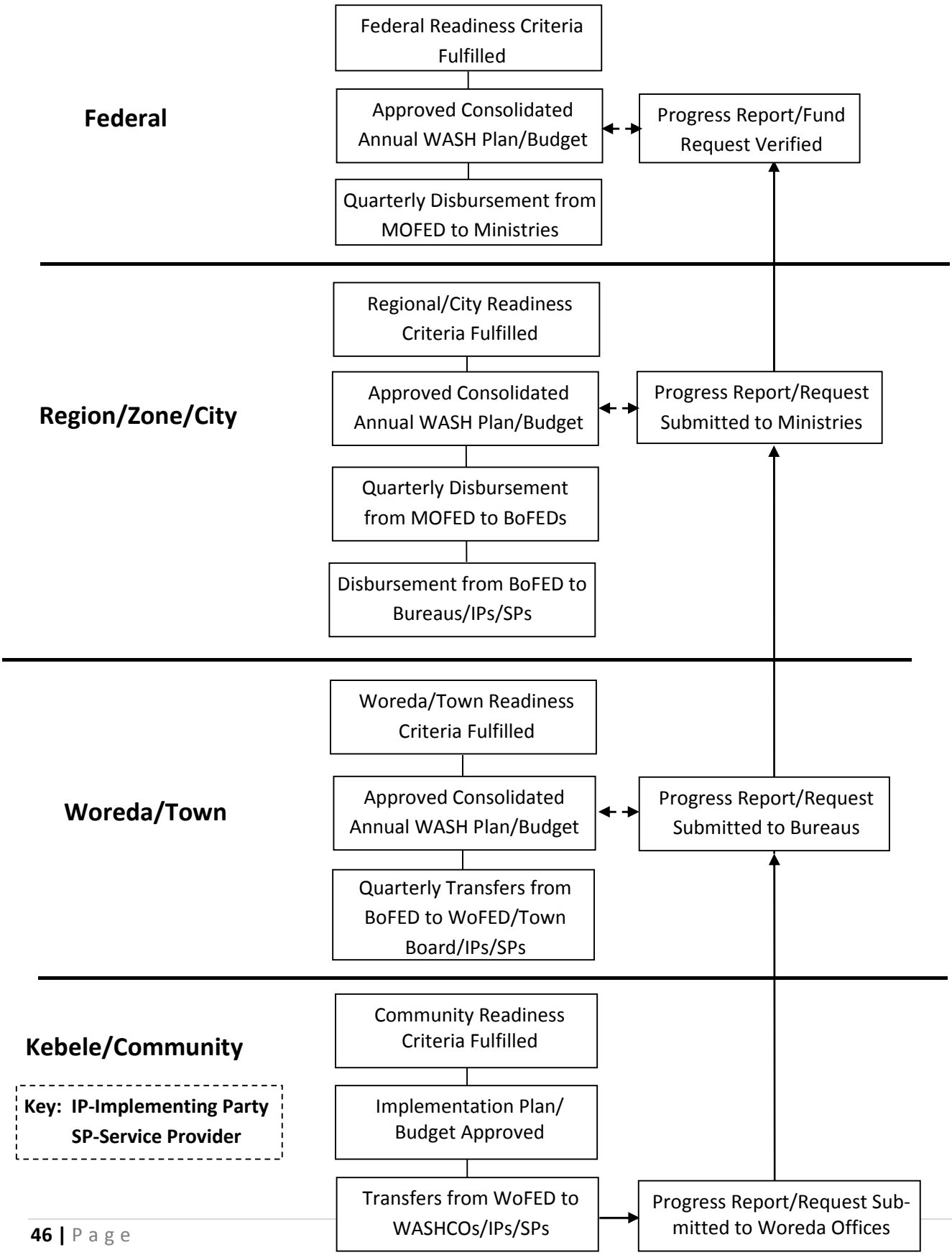
emergency WASH interventions. To this end, it is proposed that the Emergency Preparedness and Response Unit (EPRU) in MoWE be considered as a member of the NWTT and provide information on plans, progress and expenditure to the NWCO.

For WASH interventions in hot spots, regional and woreda readiness criteria will still apply. However, at community level, eligibility requirements will not require that the WASHCO be established as a legal entity or that an annual consolidated WASH plan be approved before receiving assistance. However, the WASHCO will still have to formally convene, elect members be trained, and prepare their bye-laws.

5.4 Program Implementation Process

The following diagram shows the organization and sequence of activities for the Program's core planning and implementation process at federal, regional, city, zone, woreda, kebele and community levels. The keystone of Program planning and implementation is the Consolidated WASH Plan at woreda, region, city/town and federal levels. These plans will include a budget and procurement plan.

Figure 5-1: Program's Core Planning and Implementation Process



6. Component Description

6.1 Rural Water Supply

6.1.1 Introduction

To address the low access to water supply in rural areas, the Water Resource Management Policy (1999), supports decentralized management and integrated and participatory approaches to providing improved water supply services. The need to include all stakeholders, NGOs, communities and the recovery of O&M costs is also recognized and supported by this Policy.

The Program's rural water supply activities include studies, construction of new point sources or small pipe schemes with distribution systems, including multi-village schemes where appropriate, rehabilitation of existing point sources and expanding small pipe schemes.

6.1.2 Implementation

The planning and implementation process for rural water supply will vary according to implementation modality, (WMP, CMP, NGO or self supply) but in all cases will be expected to conform with Program requirements and GoE policies regarding the Program organization, preparing consolidated annual WASH plans and budgets, reporting requirements, use of common monitoring indicators, cost-sharing policies, and technical standards, including water quality standards.

WMP Modality

The distinguishing feature of WMPs is that the woreda WASH Team (WWT) is responsible for administering funds allocated to a kebele or community) through a Grant Agreement for capital expenditures on water supply or sanitation. Although the Kebele Administration and WASHCOs are involved in project planning, implementation, monitoring and commissioning the project, the WWT is the Project Manager and is responsible for contracting, procurement, inspection, quality control and handover to the community. Construction is supervised by woreda staff.

WMP projects will be implemented according to procedures and guidelines established for Woreda Managed Projects, with modifications to comply with the Program organization, reporting requirements and monitoring indicators.

CMP Modality

The CMP is a rural WASH implementation modality where communities are supported to initiate, plan, implement and manage their priority water and sanitation projects using funds that are transferred to and managed by the community.

The CMP approach makes communities responsible for developing, managing and operating water schemes. Funds for physical construction are transferred to the communities from woredas or through intermediaries selected by the communities, thus making communities responsible during the full project cycle, from planning, implementation (including procurement of most materials and labor) and O&M. The WASHCO is directly responsible for contracting, procurement, quality control and financial accountability to the community, the Kebele and the Woreda Administration. There is no handing over of scheme to communities, since the community already owns the project.

Another important feature of CMP is the focus on development of water supplies using low-cost technologies such as hand-dug wells and springs. Such technologies are well-suited to the hydrological conditions in many parts of Ethiopia, and less complex procurement processes lend themselves well to community management. The role of Government is limited to administration, facilitation and training,

supporting capacity building of communities, monitoring and management of the woreda water supply program instead of managing large numbers of individual projects. The CMP approach has been tried for higher technology options and ways to scale-up this approach to higher technologies will be assessed.

NGO Modality

NGOs are important stakeholders in the Program as donors, implementers and knowledge disseminators. NGOs funding and management arrangements vary considerably. However, in concert with national WASH principles and practices, they foster community initiative, develop community leadership and require community investment in water point projects. In some cases, NGOs administers external resources on behalf of the community (as in WMPs). In other instances, they make external resources available to the community directly or through MFIs to support construction and management.

NGOs have flexibility and are able to increase community involvement, ownership and accountability. NGO-supported projects will follow procedures agreed between the NGO, its partners, GoE and the region or woreda where activities are located, but in any case should comply with policies on cost-sharing, community contributions, reporting and monitoring indicators. NGOs will be included in resource mapping at all levels and will be requested to provide information for the preparation of consolidated Annual WASH plans and budgets. NGOs will also be requested to provide periodic progress and utilization reports to WASH Coordinators at various levels.

Self Supply

Self supply activities will be implemented according to the institutional arrangements, roles and responsibilities, procedures and technical and service standards described in the Self-supply Guidelines which are currently under preparation by the Self Supply Working Group. The self supply modality is described in greater detail in Section 10.2.

Regardless of the implementation modality, all IPs will be required to take part in joint planning at the appropriate level (i.e. federal, region, zone or woreda) for the purpose of preparing a Consolidated Annual WASH Plan and budget. IPs should report their progress and budget utilization to the relevant WASH coordinating body at the respective levels and participate in Program meetings, workshops and other relevant events as required.

Multi-village Water Supply Schemes

Multi-village water supply schemes will be supported under certain conditions provided that feasibility studies verify that the proposed sources are adequate and that the schemes can be socially, technically and financially sustainable. More information on the conditions under which multi-village water supply schemes can be viable options is presented in Annex 5.

6.1.3. Activity Sequence

The activity sequence for implementing rural and pastoralist water supply activities is shown below:

Table 6-1: OWNP Activity Sequence

Step	Activity
1	Readiness criteria fulfilled at regional/zonal level
2	Information and other planning inputs received from local and woreda levels
3	Consolidated Annual WASH Plan (CAP) and budget prepared at regional/zonal level, including a pastoral WASH component with participation from IPs implementing Emergency WASH
4	CAP prepared at Federal level, including the pastoral WASH component
5	Fund availability confirmed
6	TA requirements identified and TA procured
7	Awareness and capacity building activities start
8	Readiness criteria fulfilled at woreda level
9	Readiness criteria fulfilled at kebele/community level
10	Procurement of works and goods/supplies
11	Construction starts, capacity building activities continue
12	Monthly/quarterly progress/utilization reports prepared and submitted by IPs
13	Joint WASH supervision/verification missions, e.g. quarterly, including pastoral WASH activities
14	Completion reports for TA, capacity building and construction activities submitted by IPs
15	Joint Technical Reviews and MSF include pastoral WASH activities

6.1.4 Service Standards

Service standards for rural water supply are shown below:

Table 6-2: Service Norms for Rural Water Supplies

Type	Scheme	Minimum Service Life	Population served
Point source	Lined hand dug well with raised collar with rope pump	5 years	75
	Lined hand dug well with raised platform fitted with handpump	5 years	270
	Capped spring	10 years	350
	Rainwater harvesting from roof catchments serving public institutions	10 years	Depends on catchment area
With distribution	Capped spring with distribution	10 years	Depends on yield
	Deep borehole/motorized pump with distribution	10 years	1,500

The Program will support implementation of procedures and application of standards for cost-effective borehole construction as described in a study of drilling in Ethiopia[22]. In this study, technical and contractual actions to reduce borehole construction costs without compromising quality were identified. They include:

- Do not drill unnecessarily deep;
- Drill at the smallest diameter appropriate to the required discharge, pump and casing sizes;
- Wherever possible use plastics rather than steel casings and screens;
- In appropriate geological formations, leave the hole open (uncased);

[22] Drilling for Water in Ethiopia: A Country Case-Study, Rural Water Supply Network/WSP, June 2006.

- Use small, lightweight rigs wherever possible;
- Carry out only the appropriate duration and specification of test pumping;
- Package and cluster contracts whenever possible to reduce mobilization costs.

Further details of the guidelines for cost-effective boreholes with special reference to conditions and practices in Ethiopia are presented in Annex 6.

6.1.5 Manuals, Guidelines and information materials

MoWE, WSSP, COWASH, WSP, JICA, UNICEF, WaterAid, SNV and others have prepared a number of manuals, guidelines and information materials which are relevant to the Program's activities. These materials are too numerous to include in the present document, but these manuals will be reviewed early in Phase I and, if sound suitable, will be adapted for use by the Program[23].

6.2 Rural Sanitation and Hygiene Promotion

6.2.1 Introduction

A large majority of rural communities in Ethiopia practice unsafe disposal of human waste, including open defecation. Many people in rural areas are not aware of the advantages of having a latrine and are therefore not willing to construct a latrine. It is therefore essential to link hygiene education with both water supply and sanitation interventions to increase the impact of each activity.

Since 2004 GoE, with development partners, have paid substantial attention to rural hygiene and sanitation by implementing the Health Extension Program to promote sanitation and hygiene at grassroots level. As a result, significant progress has been reported in sanitation and hygiene. However, based on the JMP Update 2012, there are still 38 million people in Ethiopia practicing open defecation.

Constructing and using pit latrines in rural Ethiopia has become more common after the deployment of more than 38,000 HEWs in over 15,095 health posts at kebele level and below. HEWs are trained to work with 16 preventive health packages, of which 7 are WASH-related. HEWs possess good potential to show positive results in improving hygiene education focusing on water quality, proper handling and storage of water, handwashing, latrine use and disposal of feces and solid waste as well as environmental cleanliness at kebele and community levels.

However, there is still much work regarding latrine design and usage as many latrines are without superstructure or a squat hole cover, have non-washable floors, do not provide adequate privacy, allow fly breeding and smell. Other key areas to be addressed include personal hygiene, household water storage, safe use of water, handwashing at critical times and promoting the safe water chain.

6.2.2 Implementation

Program interventions include promoting CLTSH, the 8 steps in the Sanitation Protocol, consensus-building using participatory methods, capacity building of CLTSH facilitators in woredas and at primary health care units, use of HEWs and the HDA for household outreach to support behavior change and good hygienic practices and to eradicate ODF. Monitoring, reporting verification and follow-up, as well as using standard guidelines, manuals and formats will further support effective implementation.

Activities and steps for improving sanitation and hygiene include:

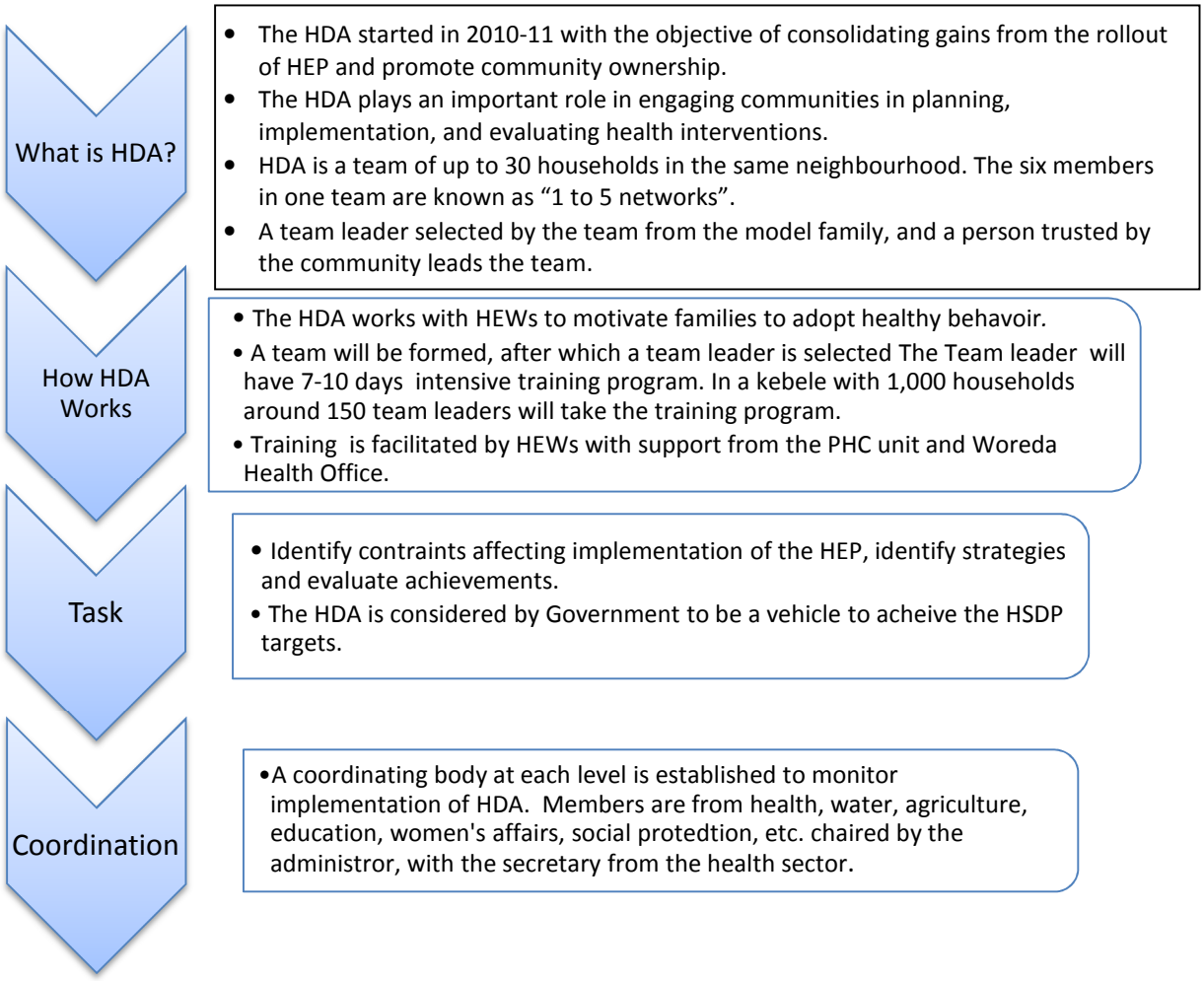
[23] The review of manuals and guidelines undertaken by COWASH will be an important contribution to this activity.

Table 6-3: Steps of Improving Sanitation

Step/Purpose	Outcome
1. Pre-planning and organizing	
To reach consensus at woreda level with political leaders and stakeholders	- H & S issues are important - All agree to solve the problems identified (joint action plan) - Use WASH coordination mechanism (e.g. WWT) to monitor plans to make BC a reality in the woreda.
2. Capacity building	
To identify and train WASH actors in the woreda	- HEWs promote latrine options, BC approaches and tools. - Trained WASH actors support HEWs in constructing latrines, BC approaches, familiarize with BC tools
3. Conduct rapid WASH baseline assessment	
To provide information on the actual WASH situation	– Evidence based advocacy – Prepare a joint action plan – Performance monitoring
4. Organize Multi-stakeholders meeting (WSG)	
To create common ground for a joint action plan	– Woreda and kebele political leaders, CBOs, FBOs, and NGOs, private sector and associations, HEWs and PTAs involved
5. Planning and budgeting	
Make plans to address/solve problems and focus on total behavioral change	– Construction of model latrines and handwashing facilities using locally available materials – DSA, fuel and transport (triggering, follow up/support
6. Kebele and Gott ignition and action	
To identify and use kebele level bodies such as development committee/armies and VHP	– Identify kebele hygiene and sanitation problems – Identify doable actions to improve the hygiene and sanitation situation – Community and HHs engaged through, e.g. community conversation
7. Construct model latrines and handwashing facilities	
Ensure availability of affordable sanitation technology options	– Locally available construction materials and skilled workers – Trained local artisans in latrine construction – Latrines constructed from locally available materials
8. Institutional WASH (schools, health units, others)	
Use students and teachers as change agents	– Strengthened existing/establish new health clubs – School Health Science Program implementation guideline – Trained school Health Club members/leaders on total behavioral change – Mechanism to support household and community hygiene promotion
9. Communication	
To disseminate and multiply the messages	– Competition between HHs/gotts/kebeles/woredas/schools(exposure visits) – Reward for good achievement – Mass media (multi-media approaches)

Step/Purpose	Outcome
10. Supervise, monitor and report	
To use WASH indicators to monitor, supervise and report	– Regular support and supervision – Participatory progress monitoring
11. Evaluate and value	
To share experience with the community	– Competition between Gotts to increase community commitment to total BC

Table 6-4: Health Development Army (HDA)



Note: A primary health care unit (PHCU) consists of five satellite health posts serving around 5,000 people.

6.2.3 Sanitation Marketing

The Program will support the scaling-up of sanitation marketing as described in the National Sanitation Marketing Guideline (draft), MoH, June 2013. Further information on the proposed approach to sanitation marketing is presented in Annex 7. It is important that sanitation marketing is conceptually and

programmatically integrated and closely coordinated with related WASH activities, such as training artisans and establishing supply chains so that both water supply and sanitation services and products are promoted as an integrated package.

6.2.4 Manuals, Guidelines and Information Materials

MoH, WSSP, WSP, UNICEF, WaterAid and others have prepared a number of manuals, guidelines and information materials which are relevant to the planning and implementation of rural sanitation. Of particular relevance are the following documents issued by the Ministry of Health: Implementation Guideline for CLTSH Programming, January 2012; CLTSH Facilitation Training Guide, Jan. 2011, and CLTSH Verification and Certification Protocol (2012), National Monitoring and reporting system for the implementation of CLTSH, January 2012 and two important publications by WSP[24].

The Program will support the review, updating and/or adaptation, translation and dissemination of relevant materials to comply with the Program's organization, planning procedures, reporting requirements and monitoring indicators. The review of WASH manuals and guidelines undertaken by COWASH will be an important contribution to this activity.

6.3 Pastoralist WASH

6.3.1 Background

Access to improved water supply and sanitation facilities in pastoralist areas, both at household and institutional levels in emerging regions is poor. Afar, Somali, Benshangul Gumuz and Gambella) and pastoralist areas in Oromia and SNNPR are relatively low compared to other areas and the national average. Water and the sanitation access in pastoralist regions ranges from 39.5% to 61%, and from 6.5% to 21% respectively, while in the other parts of the country water and sanitation coverage ranges from 62% to 95% and 41% to 76%, respectively.[33]

Access to water and sanitation in Afar, Benshangul Gumuz, parts of Oromia, Somali, Gambella and SNNPR at both household and institutional level is well below the national average. In Afar Region, only 3.4% of households have access to sanitation facilities. The proportion of households practicing open defecation in Afar Region in 2012 was reported to be 81.5%.

Toilets constructed by households are often not well maintained or used properly. The most common sources of drinking water are rivers; lakes; unprotected wells; springs; public taps and privately owned taps. Due to the scarcity of water, poor sanitation and hygiene, the region has experienced Acute Watery Diarrhea (AWD) in 2006, 2007, 2008 and again in 2009[25]. According to a report on these epidemics by the regional health bureau in 2009, there were 6,583 suspected cases and 183 deaths. The major problems cited by HEWs, school officials, woreda health personnel and community members are shortage of resources, lack of commitment and awareness, weak intersectoral collaboration, uncoordinated and ineffective sanitation promotion efforts and lack of affordable construction materials for latrines.

Pastoral communities do not only require drinking water for themselves and their cattle. They also require pasture for grazing their cattle. Therefore, water supply schemes should be constructed close to pasture lands and along migration routes as hydrological and hydrogeological conditions permit. Involving clan

[24] Scaling Up Rural Sanitation and Hygiene in Four Regions in Ethiopia through Alignment with Health Extension Program, Consensus with the Whole System and Total Engagement with Communities, October 2012, and; WSP Learning Note: Scaling Up Rural Sanitation. Learning by Doing: Working at Scale in Ethiopia, July 2011.

[25] It is reported that from late 2012 to mid-2013, the incidence of AWD in these areas has drastically declined. (Personal communication. Emergency WASH Coordinator, UNICEF.)

leaders like Aba Ella (the "Father of Water Wells" in Borana) in siting and technology selection can enhance the impact and sustainability of water supplies in pastoral areas.

In areas with natural resource scarcity, there is an increased risk that water development may trigger underlying conflicts over land ownership and access to resources, especially during dry periods or droughts. The development of water supply schemes in pastoralist areas must be conflict sensitive and will pay particular attention to the timing and quality of community consultation at every stage of the project cycle, to address the tensions between the technical and customary approaches to the decisions of where to situate water points, and what type of water scheme can be provided.

The emerging regions of Afar, Somali, Benshangul Gumuz and Gambella and pastoralist areas in Oromia and SNNPR present a unique challenge for health service delivery in general and hygiene and sanitation in particular. Both accesses to improved sanitation and hygiene practices are poor, implying a high health risk. However, open defecation in sparsely populated, arid landscapes may present a lower risk, since dehydration of human waste is rapid, even though it can be transported by flies and humans.)

Seasonal mobility for water and grazing is the key to human and livestock survival for pastoralists. Survival can be threatened if mobility is restricted. Where large numbers of people and livestock are competing for limited water supplies, and open defecation is practiced, rapid fecal-oral disease transmission including outbreaks of AWD can occur. Public officials are aware of these risks, but see water supply as the first priority, after which improved hygiene and sanitation are considered.

6.3.2 Implementation

Implementation of Program activities in pastoralist areas will require close coordination and collaboration with Emergency WASH interventions in pastoral areas. Emergency WASH activities will continue as previously to have their own funding sources and mechanisms and will not receive funds from the Program. However, annual plans, budgets and resources for emergency and humanitarian WASH activities will be shared with the WASH Coordination offices at federal, regional and woreda levels. The Program and emergency WASH share the target of reducing water trucking.

To be effective in Pastoralist areas, the Program must be aligned with and contribute to, the sustainable livelihood approach or strategy that is common to successful initiatives in pastoralist development, e.g. the Pastoralist Community Development Project (PCDP). To achieve its objective in pastoralist areas, the Program needs to be aligned with, and work through, existing structures in pastoral areas and collaborate with and learn from other agencies, organizations and projects implementing development programs

> The Pastoralist Community Development Project (PCDP) in Somali Region started 9-10 years ago and is implemented in 21 pastoralist and semi-pastoralist woredas. It has three components: i) sustainable livelihood development, ii) social livelihood program and iii) pastoral risk management. Local communities identify and prioritize improvements in their communities. Improved water supply is often among the three highest prioritized interventions. The project includes initial training and continuous support to community and kebele committees. The project has three project staff in each woreda and several mobile support teams, with one mobile support team normally covering four woredas. The woreda based project staff and the mobile support teams conduct the initial training and provide continuous support at community, kebele and woreda levels.
>
> According to project staff, the project has been very successful in improving the livelihoods of pastoralist communities, including their water supply situation. They attributed this success to the project's community-based approach with all decisions, procurement and management taking place at community level. The capacity building activities conducted by the woreda-based project staff were considered essential in this connection. The turn-over among woreda-based project staff and among other project staff is low, reportedly because all project employees have good salary packages.
>
> The capacity building approach used by the PCDP is intensive and is believed to require substantial human and financial resources. It has, however, not been possible for PCDP staff to indicate the PCDP's proportionate costs of capacity building and/or program management compared to total costs.
>
> Source*: Evaluation of Wash Capacity Building Interventions in Ethiopia. Final Report. June 2013.*

with WASH components in pastoralist areas

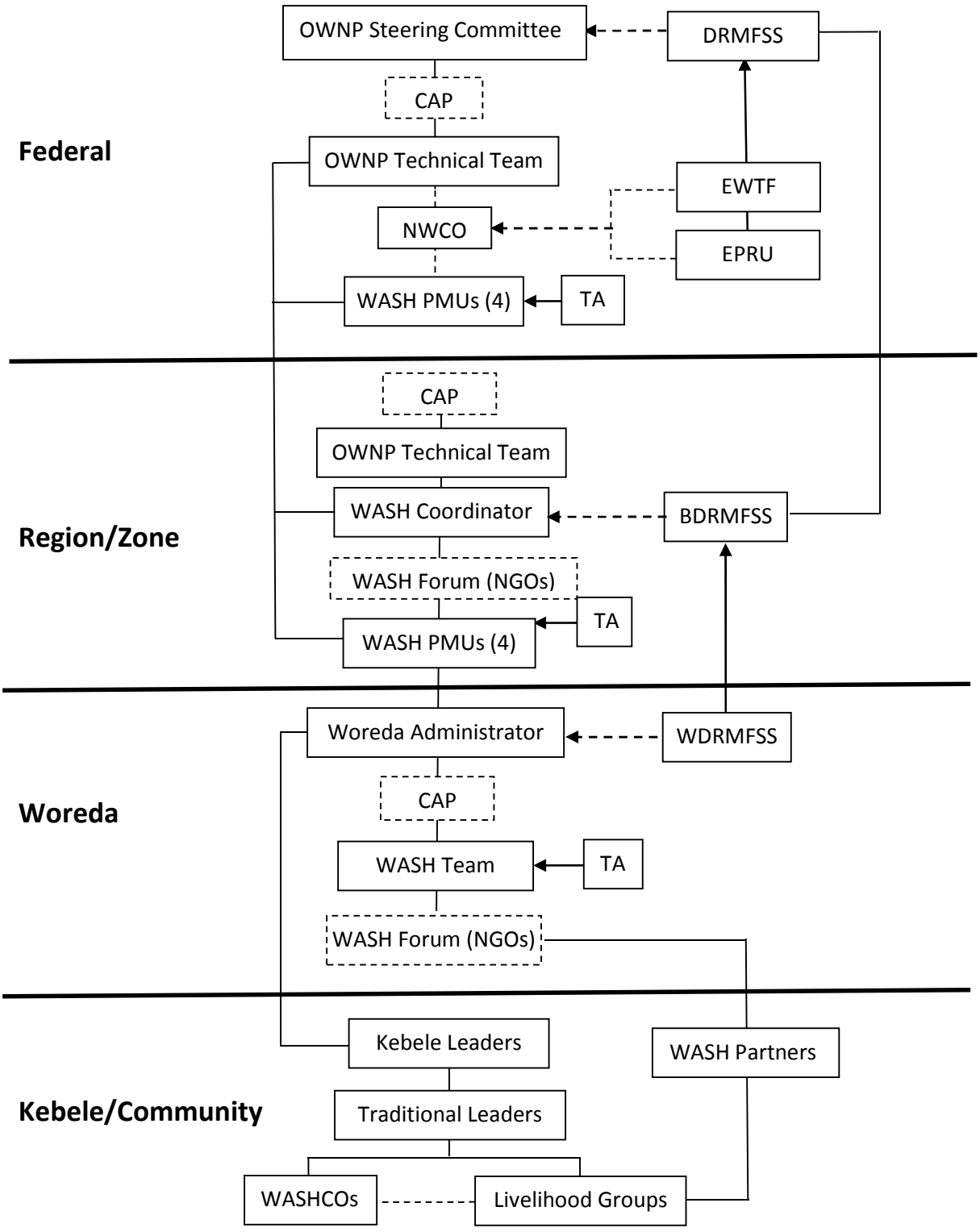
Pastoralist WASH introduces another dimension to the Program's organization and planning and implementation process; that of the need for close coordination and collaboration with emergency WASH activities, particularly in Somali, Afar and parts of Tigray, Oromia and SNNPR regions. The presence of Emergency WASH programs and activities affects technology choice, cost-sharing arrangements and targeting and prioritization of areas for implementation support.

The definition of and limits between emergency and development WASH activities are not always clear; indeed there is a gray area where there is a *de facto* transition from emergency to development WASH. This reality further necessitates close coordination and collaboration between Emergency WASH structures and inputs and those of the Program.

In addition, environmental conditions and social organization in pastoral areas differ from those found in other parts of Ethiopia, and need to be reflected in the approaches and design of WASH interventions.

The following diagram shows the organization and implementation process for implementing WASH activities in pastoral areas:

Figure 6-1: Implementation Organization and Process for Pastoralist WASH



CAP – Consolidated Annual (WASH) Plan
EWTF – Emergency WASH Task Force
WASHCO – Community WASH Committee
DRMFSS - Disaster Relief Management and Food Security Sector
B/WDRMFSS - Bureau/Woreda Disaster Relief Management and Food Security Sector
EPRU – Emergency Preparedness Response Unit

6.4 Urban Water Supply

6.4.1 Introduction

Ethiopia is one of the least urbanized countries in Africa, with over 80% of the population living in rural areas. However, the urban population is growing by 5.4% annually and is predicted to reach 30% of the national population by 2020[26]. The Program will be implemented in the following categories of towns:

Category	Description
1	Towns/cities having utilities managed by a Water Board
2	Towns/cities having utilities but not managed by a Water Board
3	Towns with water supply systems managed by WASHCOs or towns without piped water supply systems at present

6.4.2 Implementation

The Urba-n WASH component is implemented through two modalities. The capacity building, planning and service improvement are implemented through grant financing. Finance for water supply expansion will be provided on a soft loan basis. Accordingly, the process and institutional arrangements differ. At town level there are two WASH structures and processes; one for water supply and one for urban sanitation and hygiene. Both will be integrated in the Consolidated Annual WASH Plan which will be approved by the City Council or Town Board.

The following steps will be followed in planning and implementing WASH activities in urban areas:

Table 6-5: Steps of WaSH Activities in Urban Areas

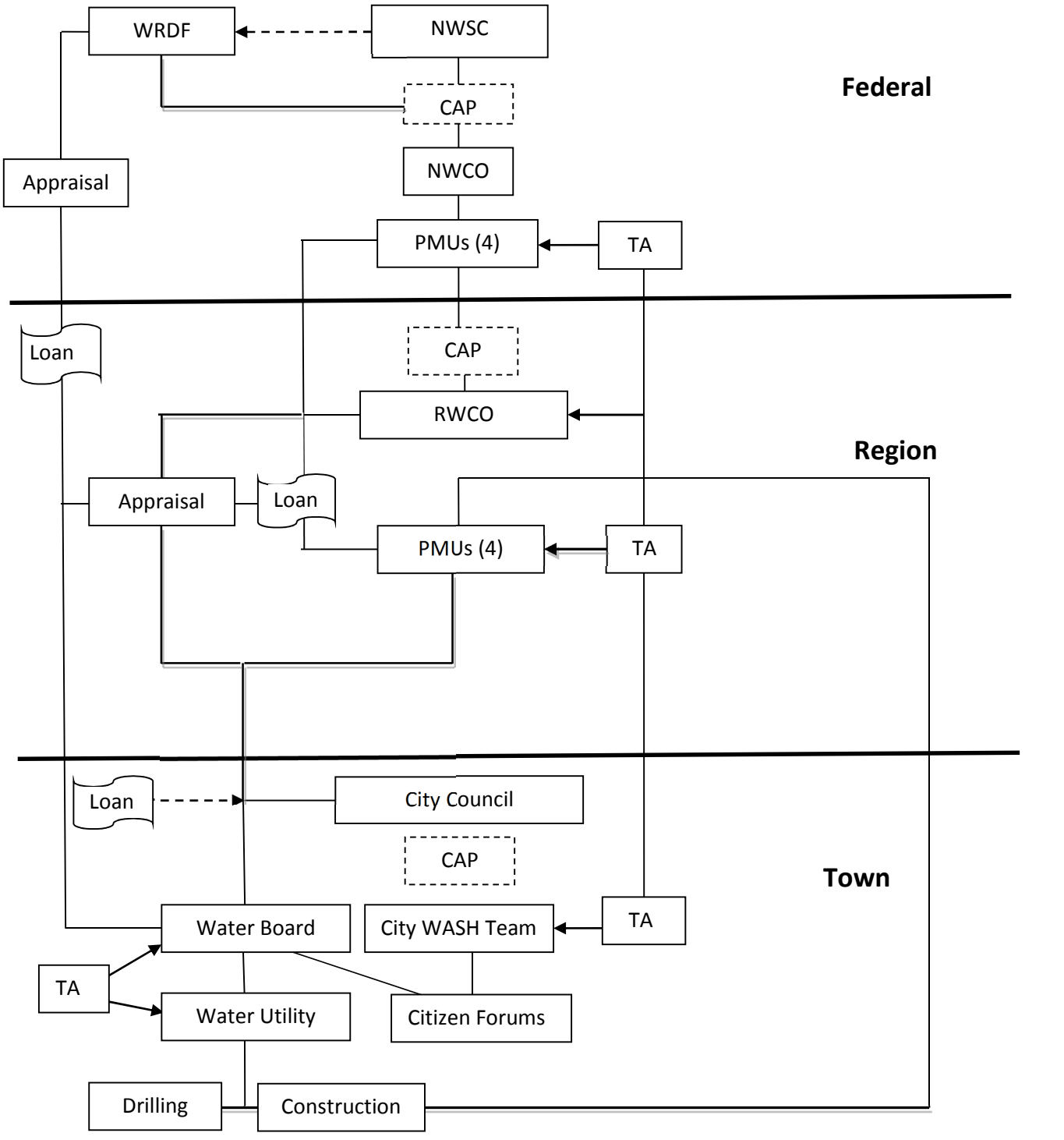
Step	Activity
1	WASH management structures and capacity, tariff policies and systems in place
2	City identifies priorities and capital investment plan for WASH infrastructure through citizen forums.
3	WASH infrastructure needs identified and incorporated in the city development plan
4	Detailed WASH plan prepared with budget requirements in the CAP
5	City Council approves the CAP
6	RWCO appraises whether the CAP is to be included in the regional CAP
7	Procurement plan prepared for all WASH activities
8	Study and design, TA, capacity building, immediate service improvement and wastewater treatment will be financed through grants
9	If water supply expansion is included, it will be financed through loan
10	If water supply development (immediate service improvement) is financed by grants, then appraisal is at regional level. For loans, an additional appraisal is conducted at federal level.
11	CAP, including budget, prepared at regional level
12	CAP prepared at federal level, including the urban WASH component
13	Fund availability confirmed
14	Grant component works fund channeled through BoFED to ToFED (wastewater) and utility (water)
15	Loan component works fund channeled through WRDF to the utility

[26] Environmental Health Scoping Study and Design of a Program of building support for the Hygiene and Environmental Health Department of Ministry of Health, Government of Ethiopia, August, 2007

Step	Activity
16	Detailed annual plan by region (grant) and WRDF (loan) approved
17	TA requirements identified and TA procured
18	Capacity building activities start
18	For grant-funded water development, drilling is carried out by the region
19	Water component implemented by Town Board; sanitation and hygiene by WASH team
20	For loans, business plan prepared by Town Board and submitted to WRDF with regional guarantee and matching fund commitment
21	Study and design carried out for WASH infrastructure
22	Wastewater master plan developed
23	Wastewater infrastructure developed
24	Tendering for WASH services, works and goods
25	Approval by region (for grant activities) and WRDF (for loan activities)
26	Procurement of works and goods/supplies
27	Construction starts, capacity building activities continue, including technical O&M capacity
28	Preparation of updated business plan and signing performance contract supported by TA
29	For urban sanitation appropriate service delivery models developed
30	Monthly/quarterly progress/utilization reports prepared and submitted by IPs
31	Joint WASH supervision/verification missions, e.g. quarterly, including urban WASH activities
32	Completion reports for TA, capacity building and construction activities prepared/submitted by IPs
33	Joint Technical Reviews and MSF include urban WASH activities

The following diagram shows the organization and process for implementation of urban water supply:

Figure 6-2: Organization and Process for Urban Water Supply



Key: RWCO - Regional WASH Coordination Office
CAP - Consolidated Annual (WASH) Plan

Criteria for grant and loan finance for urban WASH

The Water Resources Development Policy states full cost recovery in urban water supplies and to provide subsidies to communities that cannot afford to pay for basic services to cover capital costs based on targeted subsidy and gradual phase-out strategies. Based on the policy direction an attempt shall be made to gradually move towards full cost recovery by financing water supply expansion through loans provided by WRDF.

The criteria for towns to access grants are that application from the Town Water Board is submitted to regional Water Bureaus for appraisal. The regional bureaus develop criteria for grant award which include the need for a water supply in the town, availability of a viable and affordable source of supply, potential to achieve cost recovery, and population and development potential of the town.

The requirements for obtaining loans include; population of more than 15,000, having an autonomous water utility, an updated business plan, and financial statements for at least two years.

Works that can be financed by loan are construction or expansion of water supply schemes, while TA, capacity building, immediate service improvement and on-site sanitation are financed by grants.

Procurement in towns with loan financing

In towns receiving loan financing, the town will prepare one annual procurement plan for all WASH activities based on the consolidated annual WASH plan and approved budget. The procurement process for activities financed by loans and grants differ.

Construction or expansion of water supply systems is covered through loans and requires involvement of WRDF. Since disbursement is condition to annual procurement plans. The first step is that utility hires a procurement specialist, technical specialist and financial specialist to support the utility in preparing a detailed annual procurement plan with quarterly phases for WRDF's approval. Once the procurement plan is approved, the next step is to prepare tender documents for consultancy services for WRDF's approval. The Consultant prepares bidding documents for supplies, electromechanical and civil works for approval by WRDF. Once the bidding documents are approved, bids will be called by the utility. The bid evaluation will be conducted by utility in many cases assisted by a consultant. Payments to suppliers and contractors are effected through the utility and are reported to quarterly WRDF. WRDF monitors the physical progress of the projects.

TA and capacity building activities are covered through grants. The channeling of grant financing is through BoFED. However, WRDF provides technical support to the utility in synchronizing capacity building with physical works. Procurement of TA and capacity building is conducted by the utility. The utility must include TA and capacity building in its procurement plan and get prior approval from the region.

Urban sanitation projects are managed either by the municipality or the water board. Financing is through grants and there is no involvement of the WRDF. The first step is study and design, where the utility engages a consultant to prepare a prioritized and costed plan. Procurement of civil works for wastewater treatment or goods for prioritized interventions is conducted by the utility. The utility shall also include these items in its procurement plan and get prior regional approval.

6.5 Institutional WASH

6.5.1 School WASH

WHO defines a healthy school as one that constantly strengthens its capacity as a healthy setting for living, learning, and working[27]. A healthy school environment is one that protects students and staff against immediate injury or disease and promotes prevention activities and attitudes against known risk factors that might lead to future diseases or disability.[28]

In Ethiopia schools often have inadequate water and sanitation facilities. A study carried out for ESDP lll revealed that the absence of toilets in school affects girl student's performance, due to girls missing classes during their menstrual cycle, particularly if they have to go home or walk long distances to the nearest toilet[29]. Unfavorable school environments contribute many girls remaining undereducated. Illiteracy rates are still far higher among women than men, and more girls than boys drop out of school.

The provision of safe water and sanitation facilities combined with hygiene education contributes to improving school enrolment and attendance, and can potentially lower the drop-out rate, especially of girls. Educating girls is the single most effective tool for raising economic productivity, girls who are denied education are not only more vulnerable to poverty, hunger, violence, abuse and exploitation, but they are also more likely to die in childbirth and are at greater risk of diseases.

To address the problem of inadequate water supply and sanitation in schools, MoE has identified the following measures:

- Developing guidelines for water and sanitation needs of school children
- Develop gender and age sensitive curriculum on sanitation and hygiene
- Establish standards for construction of school latrines and handwashing facilities
- Upgrade life skills of school children and teachers on sanitation and hygiene education
- Establish health/environmental/school WASH clubs and promote children as agents of change

The Program will support construction or rehabilitation of water supply facilities and latrines at primary and secondary schools, production of visual aids on hygiene and sanitation, dissemination/broadcast of educational media on good sanitation and hygiene practices and participation in school health clubs. MoE, through its regional/city bureaus and woreda and town education offices, will be responsible for implementing the Program's hardware and software activities in schools. Implementation may be through WMP or as CMP. WASH activities can be combined with other activities such as vegetable gardening to provide additional benefit to schools and possibility to support nutrition education.

6.5.2. Manuals, Guidelines and Information Materials

A design and construction manual for water supply and sanitary facilities in primary schools[30] and the production of a package of multi-media materials designed to promote sanitation and hygiene in schools has been produced by the Ministry of Education with support from UNICEF.

The Program will support the review, updating and/or adaptation, translation and dissemination of relevant materials to ensure consistency with the Program's organization, planning procedures, reporting requirements and monitoring indicators.

[27] WHO. Healthy Nutrition: an Essential Element of a Health-promoting School, Information Series on School Health. WHO, 1998.
[28] American Academy of Paediatrics. Committee on School Health, School Health Policy and Practice, Fifth Edition, 1993.
[29] Taking Stock of Girls' Education in Ethiopia: Preparing for ESDP lll, 2005, Addis Ababa, Ethiopia.
[30] Design and Construction Manual for Water Supply and Sanitary Facilities in Primary Schools, MoE, MoWE, UNICEF, 2012.

6.5.3 WASH in Health Facilities

Lack of improved drinking water, sanitation and hygiene facilities in health centers, health posts, Clinics and public hospitals are particularly intolerable. Absence or inadequate handwashing before and after patient contact or after using the toilet leads to preventable infections in the health care environment[31].

In Ethiopia there are 15,095 health posts, 2,660 health centers, 122 public hospitals and 4,000 private for-profit and not-for-profit clinics. The water, hygiene and sanitation situation in the health facilities is poor, it is estimated that as many as 80% of the health facilities are without adequate sanitation facilities, and 97% are without handwashing facilities. The Program will support construction or rehabilitation of water supply facilities and latrines at health centers and health posts. MoH, through regional/city bureaus and woreda and town health offices, will be responsible for WASH construction activities in health facilities. Implementation may be through WMP or CMP.

A design and construction manual for WASH facilities in health institutions[32] has been produced by the Ministry of Health with support from UNICEF. This manual has been distributed to all regions and should be used in planning WASH facilities in health institutions.

The steps for implementing Program activities in schools and health institutions are shown below.

Table 6-6: WaSH Implementation Program in Schools and Health Institutions

Step	Activity
1	***Assess and identify*** the number of improved water supply facilities, latrines, handwashing facilities and assess existing facilities for adequacy, safety, cleanliness. Confirm the ratio of facilities to users as an input to planning.
2	***Inform*** local, regional, zonal, woreda authorities, health personnel, teachers, community leaders and parents on the importance of improved water, hygiene and sanitation facilities to control the spread of water and sanitation related diseases and persuade them to participate in planning, management and monitoring of institutional WASH activities.
3	***Form*** a WaSH planning team in MoWE, MoH, MoE and MoFED and at different levels, (region, woreda, kebele) that prepares an annual WaSH Plan both for schools and health facilities. Inputs to planning are data in step 1 above. The institutional WASH plan includes construction of new and rehabilitation of water schemes and latrines and provision of handwashing facilities, training artisans, CLTSH and SLTSH triggering, printing and distributing IEC materials, etc.
4	***Assign*** sufficient staff for monitoring, supervision and follow-up. Train HEWs, health development army. School health clubs will also be promoted and supported to inspect latrines, handwashing facilities, proper disposal of waste and other activities.
5	***Confirm*** allocation and availability of funds.
6	***Arrange*** logistics to facilitate training, supervision and follow-up.
7	***Collect and use*** relevant policies, regulations, standards, guidelines and manuals to support coordination among sector ministers and to integrate institutional WASH with other Program activities.
8	***Mobilize*** communities and start constructing or rehabilitating latrines and providing handwashing

[31] Rehfuess EQ. Bruce N.Bartram JK (2009). More health for your buck: health sector functions to secure environmental health. Bulletin of the World Health Organization, 87: 880-882(http:/www.wh.in/bulleting/volumes/87/11/08-059865/en/index.html, accessed 12 January 2012).

[32] Design and Construction Manual for WASH Facilities in Health Institutions, MoH and MoWE in collaboration with UNICEF, 2012

Step	Activity
	facilities to improve hygiene and sanitation in schools and health facilities
9	***Develop*** and implement reporting formats for each level (woreda, zonal regional, national) to track progress and facilitate supervision and monitoring of hygiene and sanitation activities in health institutions and schools
10	***Progress report*** achievements, challenges and constraints encountered during planning and implementation, lessons learned and recommendations for future action.
11	***Review meetings*** with technical staff and officials to discuss results and technical and other issues.

6.6 Water Quality

6.6.1 Introduction

The Ministry of Health has prepared a National Drinking Water Quality Monitoring and Surveillance Strategy (2011). The two main sectors responsible for drinking water quality, MoH and MoWE and their regional bureaus, have operated primarily within their own sectoral priorities and mandates. After the signing the MoU and WIF, the roles of the two sectors have been further clarified and the importance of coordination is affirmed. The Ministry of Health is responsible for periodic monitoring of water quality after water supply schemes are commissioned through their regional bureaus and woreda offices. MoWE will test water quality of proposed surface water and groundwater sources before construction and commissioning of then schemes and will be responsible for identifying and implementing mitigation measures in areas with naturally occurring water chemistry issues such as high fluoride, iron and salinity.

6.6.2 Implementation

The Program provides an opportunity to move the above Strategy forward by first obtaining approval of the ministries of health and water and energy and thereafter supporting implementation of the Strategy, primarily through strengthening water quality monitoring and surveillance, particularly in urban water supplies and in acute hot spots[33], data collection and database design and management, publication and dissemination of information, communication and performance assessments. Technical and logistic support to the national public health laboratory and regional public health and water laboratories, testing of new on-site water quality test kits.

6.6.3 Standards and Guidelines

The applicable standard for drinking water quality in Ethiopia is the Ethiopian Drinking Water Quality Standard: ES2601:2001 (second edition), which includes reference values for bacteriological, chemical and physical water quality parameters..

It is estimated that by 2020, the volume of wastewater generated from Addis Ababa alone, much of which enters the Awash and Akaki Rivers, will exceed 200,000 m^3/day or 73 M m^3/year, of which an estimated 10% is industrial wastewater[34]. At present there are no national standards for industrial and domestic wastewater. Developing such guidelines and associated directives and regulation as a collaborative effort between the Environmental Protection Authority (EPA) and MoWE is an urgent priority

[33] Hot spots include areas where the risk of contamination of drinking water and related disease transmission are high.

[34] Urban sanitation and wastewater treatment in Addis Ababa, Ethiopia, D. Van Rooijen and G. Taddesse, Addis Ababa, 2009.

7. Program Organization and Partnerships

7.1 Program Organization

The highest governing body in the Program is the National WASH Steering Committee (NWSC) whose members include Ministers and State Ministers from the ministries of Water and Energy, Health, Education and Finance and Economic Development. The NWSC is chaired by the Minister of Water and Energy.

The technical arm of the NWSC is the National WASH Technical Team (NWTT) consisting of Directors from the four WASH ministries. A similar structure is prescribed at regional level. The lowest level of WASH governance is the woreda. At woreda level WASH activities are implemented by the District WASH Team led by the District Administrator. Its members are from the four WASH sector offices (Water, Health, Education and Finance with additional members from the Women Affairs and Agriculture offices). Development partners are presently represented by the Development Assistance Group – Water Technical Working Group.

A National WASH Coordination Office (NWCO) will be responsible for coordinating, planning and oversight of Program implementation at federal level. The NWCO will report to a National Steering Committee chaired by the Minister of Water and Energy and supported by a National WASH Technical Team consisting of representatives from participating ministries and partners. Implementation of the Program in the sector ministries will be the responsibility of WASH Program Management Units (PMUs) in the ministries of Water and Energy, Health, Education and Finance and Economic Development, respectively.

At regional, zonal and city levels, planning and implementation of the Program will be coordinated by a WASH Coordination Office which will report to a Regional WASH Steering Committee and be supported by a Technical Team. Implementation will be managed by WASH PMUs in the bureaus of water resources, health, education and finance and economic development.

At woreda level, the planning and implementation of the Program will be coordinated by a dedicated WASH Team consisting of members from the water, health, education and finance desks. The Woreda WASH team will report to a Woreda WASH Steering Committee appointed by the Woreda Cabinet.

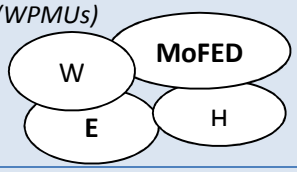
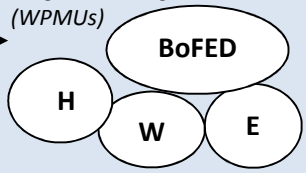
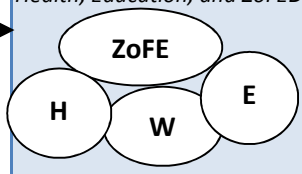
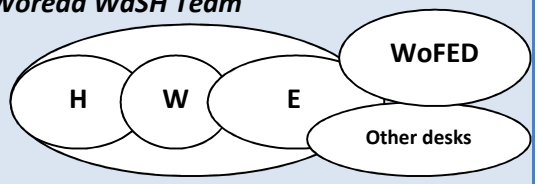
At kebele level WASH plans will be approved by the Kebele Chairman and Council, and Health Extension Workers will be deployed to support communities in construction of latrines and to promote safe hygiene practices.

At community level, WASH committees (WASHCOs) consisting of elected community members will be formed to undertake planning, operation and maintenance and in some cases construction of improved water supply and sanitation facilities.

The Program will be implemented as a joint effort between Government, Development Partners, NGOs, training institutions, the private sector, community members and other stakeholders. In addition to the Government, a number of Development Partners will support the Program through contributions to a Consolidated WASH Account at federal level. Other partners, including bilateral aid organizations and CSOs, will support the Program through other funding arrangements, as well as through the provision of technical assistance, supplies and other means.

This diagram shows the institutional arrangements and functions for implementing the Program:

Table 7-1: Institutional Arrangement and Functions for OWNP Implementation

Level	Governance & Guidance	Oversight & Management	Program Implementation	Program Coordination
Federal	National WaSH **Steering Committee**	National WaSH **Technical Team**	Federal Sectors' WaSH Program Management Units (WPMUs) 	**National WaSH Coordination Office**
Regional	Regional WaSH **Steering Committee**	Regional WaSH **Technical Team**	Regional Sectors' WaSH Program Management Units (WPMUs) 	Regional WaSH **Coordination Office**
Special Zones (or other zones where applicable)	Zonal WaSH **Management Team**		Zonal WaSH Program Management Units –(Water, Health, Education, and ZoFED) 	Zonal WaSH **Coordination Office**
Woreda	Woreda WaSH Steering Committee (Woreda Cabinet)		**Woreda WaSH Team** 	
Town/City	Town/City WaSH Steering Committee (Town Cabinet)		Town/City WaSH Technical Team Municipality Health Desk/Education Desk Town Water Board Town Water Utility	

Source: WASH Implementation Framework, Government of Ethiopia, 2012.

7.2 Minimum Staffing Package

In order to effectively implement the Program, the following minimum staffing package is proposed. Focal persons are not full-time staff, but will perform their Program-related tasks alongside other duties.

Federal Level

1. WASH Coordinator (1)
2. PMU coordinator(one for each of the four ministries)
3. M&E staff (1 M&E specialist and 1 data entry clerk)
4. Procurement and contract management (2 staff so that they can share the regions into two)
5. Financial management/accounting (4 staff)
6. Community management expert(2 staff)
7. Water supply engineer(2 staff)
8. S&H expert(2 staff)

Regions

1. WASH focal person (1 for each of the four bureaus)
2. Community management expert (1)
3. Water supply engineer(1)
4. S&H Specialist (1)

Zones

1. WASH focal person (1)
2. M&E focal person (1)
3. Procurement and contract management focal person (1)
4. Financial management/accounting focal person (1)
5. Community management focal person (1)

Towns with greater than 50,000 population[35]

1. WASH focal person (1)
2. M&E focal person (1)
3. Procurement and contract management focal person (1)
4. Financial management/accounting focal person (1)
5. Customer relations focal person (1)
6. Water supply engineer (1)
7. S&H Specialist (1)

Woredas[36]

1. WASH focal person(1)
2. M&E focal person(1)
3. Procurement and contract management focal person(1)
4. Financial management/accounting focal person(1)
5. Community management focal person(1)
6. Water supply technician (1)

[35] Towns with a population of less than 50,000 can get support from larger towns or zones.
[36] Focal persons and technicians should be trained TVETC or HSC graduates

7. Junior environmental sanitation technician (1)

Where the above focal persons or staff do not exist, arrangements will have to be made to recruit them on contract to support the implementation of the Program.

7.3 Partnership arrangements

The Program will include the following partnership arrangements:

1. Partners - organizations contributing to the Consolidated WASH Account (CWA) at federal level.
2. Associated Partners – organizations funding construction of water supply and sanitation facilities, technical assistance, supplies and other support to OWNP, but not using the CWA.
3. Collaborating Partners – organizations providing other types of assistance to OWNP, i.e. training, studies, manuals, communication products, participation in the Multi-Stakeholder Forum, etc.

It will be possible for new partners in any category to join at any time.

Partners at national level will be eligible to receive quarterly progress and financial reports, audit reports through the NWCO and can be represented by a non-voting member on the National Program Steering Committee. Associated partners at national level will prepare annual work plans and budgets in collaboration with the NWCO and will report to the NWCO through quarterly progress and financial reports. Associated Partners and will receive quarterly OWNP progress reports and can participate in the MSF and be members of the WTWG of the DAG.

Collaborating partners may be national or international organizations that provide defined services related to a specific output/outcome of the Program. Collaborating partners will sign an MOU with the coordinating offices at various levels, prepare annual work plans and budgets, and will report to the coordinating units though quarterly progress and financial reports.

At an appropriate time in the annual planning calendar, the NWCO will convene a general meeting of all Program partners to assess progress to date and prepare plans for the coming year. It is important that annual plans be closely coordinated /harmonized to take advantage of opportunities for synergies, address gaps and avoid duplication of effort.

8. Results Framework and Key Performance Indicators

8.1 Introduction

The Program's main instruments for monitoring, verification and impact assessment consist of a results framework and key performance indicators. The Program's Results Framework contains outputs, outcomes, indicators and impacts for each Program component and for the Program as a whole. The Program's results framework is presented in Annex 8.

8.2 Key performance indicators

Key performance indicators (KPIs) will have the following characteristics:

- Related to important policies, issues and objectives
- Clearly defined and easily measurable and consistently applied
- Few, manageable for regular reporting and provide required information for decision-making
- Allow performance to be assessed regularly and tracked over time to inform key decisions

The following key performance indicators (KPIs) will be used in the Program:

Table 8-1: Key Performance Indicators (KPIs)

S.No	Indicator	Definition		Achievement		Target	
				2014	2015	2014	2015
1	**Access:** Percentage of people with access to 15 liters per capita per day within 1.5 radius in rural areas and 20 liters per capita per day within 0.5 km radius in urban areas.	Proportion of people with access to 15 l/c/d water supply source within 1.5 radius for rural and 20 l/c/d within 0.5 km radius for urban (Kebele, Woreda, Regional, National Level)	**Rural**				
			Urban				
2	**Functionality:** Percentage of improved water supply schemes that are functional	Proportion of improved water sources that are functional at time of spot-check	**Rural**				
	Percentage of TWU supplying water for more than 6 hours a day for all costumers	Number of towns supplying water more than 6 hours a day to all customers divided by total number of towns	**Urban**				
	Percentage of non-revenue water	Difference between water supplied and water sold expressed as a percentage of net water sold	**Urban**				
3	**Quality:** Percentage of acceptable water discharge quality tests	Proportion of water quality tests complying with national water quality guideline	**Water Quality**				
	Percentage of acceptable wastewater discharge quality tests	Proportion of wastewater discharge quality complying with WHO guidelines	**Waste water Quality**				
4	**Sanitation:** Percentage of people with access to improved human excreta removal	Proportion of people with access to improved human excreta removal within community (Kebele, Woreda, Regional, National level)	**Rural**				
			Urban				
			Shared				
			Private				
5	**Handwashing:** Percentage of households with access to handwashing facilities	Proportion of households with access to hand washing facilities in community(kebele, woreda, region and national level)	**Rural**				
			Urban				
6	**School WaSH:** Percentage schools with improved water supply (tap/100 student ratio)	Proportion of schools with access to adequate water facilities in kebele with tap/100 student ratio (woreda, region and national level)	**Rural**				
			Urban				

S.No	Indicator	Definition		Achievement		Target	
				2014	2015	2014	2015
	Percentage schools with improved human excreta removal (stance/40 female/75 male students)	Proportion of schools with access to adequate human excreta removal in kebele stance/40 female student/75 male student ratio (woreda, region and national level)	**Rural**				
			Urban				
7	**Health WaSH**: Percentage of health facilities with improved Water supply	Proportion of health facilities with access to adequate water supply facilities in kebele (woreda, region and national level)	**Rural**				
	Percentage of health facilities with improved human excreta removal	Proportion of health facilities with access to adequate water supply facilities in kebele (woreda, region and national level)	**Urban**				
8	**Management:** Percentage of active WASHCOs/ Hygiene and Sanitation Community Groups	Proportion of active WASHCOs/Hygiene and Sanitation Community Groups	**Rural**				
	Percentage of active Water Boards	proportion of active Water Boards	**Urban**				
9	**Gender:** Percentage of WASHCOs/ Hygiene and Sanitation Community Groups with 50% of members women at decision making position	Proportion of women members at decision making position of WASHCOs/health and sanitation community groups	**Rural**				
	Percentage of water boards with 50% of members' with women at decision making position	Proportion of women members at decision making position of Water Boards	**Urban**				
10	**Equity:** Woreda/kebele deviation from the national average	Mean deviation from the average number of persons per improved water point by kebele and woreda. Same way by woreda and region as well as region by the national	**Rural**				
11	**Capital Cost:** Per capita investment cost	Difference between per capita costs for rural water supply at the beginning of Program and at intervals during the Program	**Rural**				
		Difference between per capita costs for urban water supply at the beginning of Program and at intervals during the Program	**Urban**				

S.No	Indicator	Definition		Achievement		Target	
				2014	2015	2014	2015
12	**O&M :** Percentage of WASHCOs covering O&M costs, percentage of water utilities covering O&M and replacement costs	Proportion of WASHCOs covering O&M costs in the kebele (woreda, region and national)	**Rural**				
		Proportion of water utilities covering O&M and replacement costs by region and national	**Urban**				
	Impact						
13	Percentage of under-5 children with mortality rate decrease	Under-5 child mortality divided by the number of under- 5 children in the kebele (woreda, region and national)	**Rural**				
			Urban				
14	Percentage of under-5 children with diarrheal disease decrease	Number of under-5 children with diarrheal diseases divided by the total number of under-5 children in (kebele, woreda, region and national)	**Rural**				
			Urban				
15	Average time saving due to improved water availability within 1.5 km distance	Difference between time taken to fetch water before the new water point construction and after construction	**Rural**				
16	Percentage increase in enrollment of female students in school	Difference between female students after construction to number of female students before construction divided by female students before construction of water supply and sanitation facilities	**Rural**				
			Urban				
17	Percentage decrease in dropouts among female students	Difference between female student dropout before construction to female student dropout after construction divided by female student dropouts after construction of water supply and sanitation facilities	**Rural**				
			Urban				

The Program will ensure that these indicators are understood and used by relevant parties and are contained the consolidated WASH progress reports to be generated at all levels.

8.3 Reporting

Reporting requirements for main WASH organizations are described in the WIF as follows:

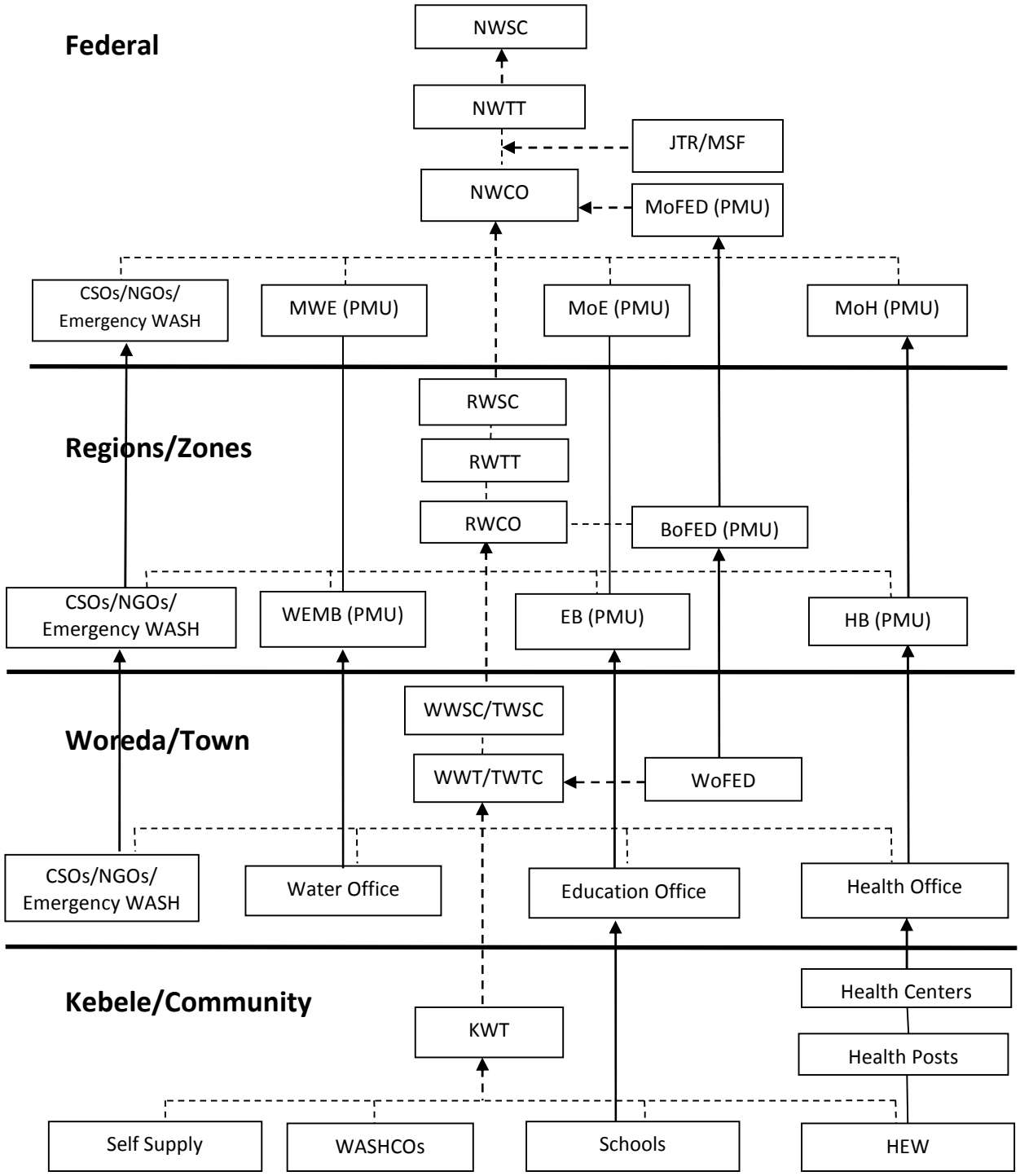
- Kebele WASH Team (KWT) submits quarterly and annual WASH progress reports to WWT
- Woreda (WWT) submits monthly, quarterly, and annual WASH progress reports to the zone/region

- Region (RWCO) submits monthly, quarterly, and annual WASH progress reports to NWCO
- NWCO submits monthly, quarterly, and annual WaSH progress reports to NWTT and through it to NWSC

WASH progress reports will include both physical and financial status. Monthly and quarterly reports should show the progress against planned activities and/or outputs while the annual plan should show achievements in meeting the annual targets.

Reporting will following diagram shows the flow of reporting in the Program as well as existing information flows between sector ministries, bureaus and offices. Arrows indicate direction.

Figure 8-1: Program Reporting



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

9. Assessing Capacity

9.1 Introduction

As mentioned previously, gaps in human resources, organizational efficiency, and lack of capacity at community level and material and logistic support are the most frequently cited threats to successful Program implementation and therefore will receive priority attention in the allocation of Program resources.

The following recommendations from a recent report[37] need to be addressed in the Program

9.2 Recommendations[38]

9.2.1 Approach to Capacity Building

Human resources (HR) capacity building should be provided on a continuous basis and include intensive initial training as well as refresher training, coaching and follow up.

HR capacity building should have a practical learning-by-doing approach, using and building on the GLoWS principles now being used to build the capacity of woreda staff and artisans.

A cascaded training approach should be used for rural water supply and sanitation. For urban water supply and sanitation, it will also be relevant to use a cascaded training approach for promotion of good hygiene practices and improved on-site sanitation. A cascaded training approach is less relevant for urban water and sewerage utilities, whose capacity needs, should be addressed through formal courses and on-the-job training by relevant training institutions, NGOs and others.

9.2.2 Guidelines and manuals

WASH guidelines, manuals and other relevant materials need to be reviewed, adapted and updated, and any new ones prepared as required. Operation and maintenance manuals are required for different types and components of urban water supply schemes and equipment. Manuals should be translated to Amharic and other major regional languages as appropriate for the intended user group.

9.2.3 Systems and Institutions

Assistance is required to introduce procedures for handing over responsibilities, manuals, guidelines and data when WASH staff leave their positions.

HR capacity building should focus on the supply side (training institutions) as well as creating demand from potential beneficiaries. Focus should be on institutionalizing and professionalizing training capacity by supporting EWTI, TVETCs, HSCs, universities and other training institutions to provide quality and demand-responsive long-term courses as well as tailor-made short-term courses. Particular attention should be given to ensuring effective capacity building at the community level using approaches and procedures established by the WSSP, CMP or NGO assisted projects.

9.2.4 Operation and Maintenance (O&M)

High priority will be given to capacity building in O&M for both rural and urban water supply and sanitation. This should initially focus on addressing the significant number of rural piped water schemes which appear

[37] Evaluation of Wash Capacity Building Interventions in Ethiopia, Final Report, June 2013.

[38] These recommendations are based on the Evaluation of Wash Capacity Building Interventions in Ethiopia, Final Report, June 2013.

to have been constructed without sufficient community and woreda involvement and ownership and which now have serious operational and O&M problems.

Appropriate and sustainable solutions should be identified so communities have access to affordable spare parts and maintenance services within a reasonable distance, preferably by the private sector.

9.2.5 Sanitation and Hygiene Promotion

MoH should review its federal-level responsibilities for the Program's sanitation and hygiene promotion and allocate the number of federal level staff and operational budget required to carry out these responsibilities.

Experience in Ethiopia in piloting sanitation marketing should be assessed and, if positive, scaled up to encourage and facilitate people to move up the sanitation ladder. Sanitation marketing is relevant in both rural and urban areas. Capacity building should be provided to local artisans and health staff to support sanitation marketing.

Increased attention should be paid to sanitation and hygiene promotion in towns, including peri-urban areas, and related capacity building. In addition to promoting good hygiene and appropriate on-site sanitation, appropriate solutions to sludge management and capacity building interventions should be identified and implemented.

9.2.6 Planning, procurement, financial management and monitoring

Training and support in integrated WASH planning will be provided at woreda, zonal and regional levels as well as at federal level.

Capacity building is needed in procurement and financial management, particularly at water utility, woreda and regional levels.

Priority will be given to capacity building in monitoring progress and impact and use of monitoring data for planning.

9.2.7 Strengthening private sector capacity

Information, training and business opportunities should be offered to the private sector to strengthen its involvement in and contribution to the WASH sector. Initial priority should be increasing capacity in drilling, hydrogeology, design and construction of piped water schemes, contract management and construction supervision, environmental and social impact assessments and quality standards for construction.

9.2.8 Gender Equity and Mainstreaming

The Program recognizes the importance of gender equity and mainstreaming as a cross-cutting issue that is related to social inclusion, participation and sustainability of Program benefits. The Program will require that the Women's Affair's Directorate prepare a detailed gender equity strategy for the Program using among others, the results of its recent gender assessment in the water sector.

The Women's Affairs Directorate will also be tasked with conducting orientation sessions in implementing the Program's gender equity strategy for the regional and city Program organization.

MoWE's Gender Mainstreaming Guideline[39] should be used in training at different levels, including training of teachers in TVETCs, HSCs and other training institutions.

[39] Gender Mainstreaming Implementation Guideline for the Water and Energy Sector, MoWE, October 2012.

9.3 Capacity Self-Assessment

The adequacy of existing capacity among woredas and towns depends on several factors; the size and population of the area covered the number of water supply and sanitation facilities and the amount and type of work remaining to achieve the desired targets, present staffing levels and skills, availability of logistic support, equipment, etc.

A format for self-assessment of capacity at woreda level is available and includes size of the woreda, present number and coverage of WASH facilities, ongoing WASH activities, human resources, logistics and the work to be done to achieve or maintain WASH targets.

Capacity assessments and capacity building activities will be based on the results of a diagnostic capacity assessment and be implemented according to agreed priorities. The following steps will be followed in determining a minimum capacity building package and the Program implementation process in woredas:

Step	Description
1	Woredas/towns ranked on water supply and access using the NWI and other available data
2	TA identified and procured to assist in capacity assessment/capacity building
3	Woreda/town capacity assessment forms distributed, completed and submitted to WCO
4	Regional/Zonal/City capacity assessment information analyzed by NWCO
5	Regions/zones/cities informed of the results of the Capacity Assessment and allowed to comment
6	Information verified and used to prepare a minimum capacity building package for each region/ zone/city
7	CAP prepared at Federal level, including capacity building activities for each region/zone
8	Capacity Self-Assessment form completed for woredas/towns and submitted to the regional/ zonal/city WASH Coordinator for verification
9	NWCO informed of results of the capacity assessments
10	Woreda/town information is reviewed/verified and used to prepare a minimum capacity building package for each woreda/ town according to the following classification: (See Notes below.) Priority 1: Woredas/towns with low water and sanitation access and low capacity Priority 2: Woredas/towns with low water and sanitation access and medium capacity Priority 3: Woredas/towns with medium water and sanitation access and medium/high capacity Priority 4: Woredas/towns with high water and sanitation access and medium/high capacity
11	Information, awareness and capacity building activities start in woredas/towns
12	Monthly/quarterly progress/utilization reports prepared and submitted by TA provider
13	Readiness criteria progressively fulfilled at woreda/town level
10	Joint WASH supervision/verification missions, e.g. quarterly, including assessment of capacity
11	Information/awareness/capacity building activities start in kebeles/communities
11	Readiness criteria progressively fulfilled at kebele/community level
14	Completion reports for TA and capacity building activities prepared and submitted by IPs
15	Joint Technical Reviews and MSF, e.g. semi-annually, include pastoral WASH activities

Explanatory Note

A minimum woreda capacity building package will include, but not necessarily be limited to:

- Training
- Computer software and hardware
- Office equipment and furniture
- Communication and office supplies

- Running cost and spare parts for vehicles/motorbikes
- Travel allowances for WASH staff

The composition of the capacity building package will be determined on a case-by-case basis considering the specific capacity building requirements for each woreda or town.

10. Strategic Intervention Areas

10.1 Introduction

To support the accelerated delivery of improved WASH facilities and services, the Program has identified a number of strategic intervention areas; (i) supporting acceleration and scaling-up of self supply, (ii) supporting TVETCs and HSCs to provide skilled technicians to the WASH sector, (iii) Supply chains for water supply and sanitation products and services, (iv) Improving efficiency in construction and operation of urban water supply systems; (v) Mobile Technology for Transmission of Data and Information/Water Point Mapping; (vi) Social Inclusion; (vii) Improved generation and sharing of WASH knowledge and experience; (vii) Climate screening and resilience, and (x) Program Communication Strategy.

The above areas are selected for special attention because they are either new, cross-cutting, require additional emphasis in order not to be overlooked, have considerable potential to improve the outputs and efficiency of Program implementation, support achievement of sustainable results.

10.2 Accelerating Self Supply[40]

10.2.1 Introduction

Self supply, through increasing access to improved water supply with maximum participation and contribution from beneficiaries, thereby frees scarce public resources that can be used for other purposes. There has been steady development and expansion of the understanding of the contribution of family wells and a Self Supply approach in Ethiopia over the past decade. Milestones include the family well campaign that resulted in the construction of over 85,000 family wells in Oromia in 2004-6, and almost 10,000 community hand dug wells, highlighting demand and potential but also subsequent problems in scaling-up and sustaining efforts[41]. Two National Workshops followed, the first in Wolliso in 2008, acknowledged and defined the concept of Self Supply in Ethiopia. Participants in the 2nd National Workshop (Addis Ababa, October 2011) recognize the definition of Self Supply, acknowledging its potential as an important service delivery option. To achieve its full potential, the introduction of Self Supply, and supporting households to improve their level of service, should be accelerated.

A National Policy Guideline for Self Supply[42] was drafted by the SSWG and endorsed in February 2012 by the MoWE, which sets out elements and implementation of a Self Supply Acceleration Program (SSAP). The National Guideline and the WIF provide guidance for developing Self Supply as an approach to water service delivery in Ethiopia. There is no financial or material subsidy for the construction of private wells for individual households, and up to 50% subsidy for groups of 10 or more households, mainly in rural areas. Self-Supply is also expected to increase demand for the production and supply of rope pumps, which are also being promoted for productive uses of water.

10.2.2 Outcomes

The intended outcomes of the Accelerated Self-Supply Program are as follows:

[40] This section draws from the document, Proposal for Self Supply Acceleration Program, Ethiopia, MOWE, February 2013.

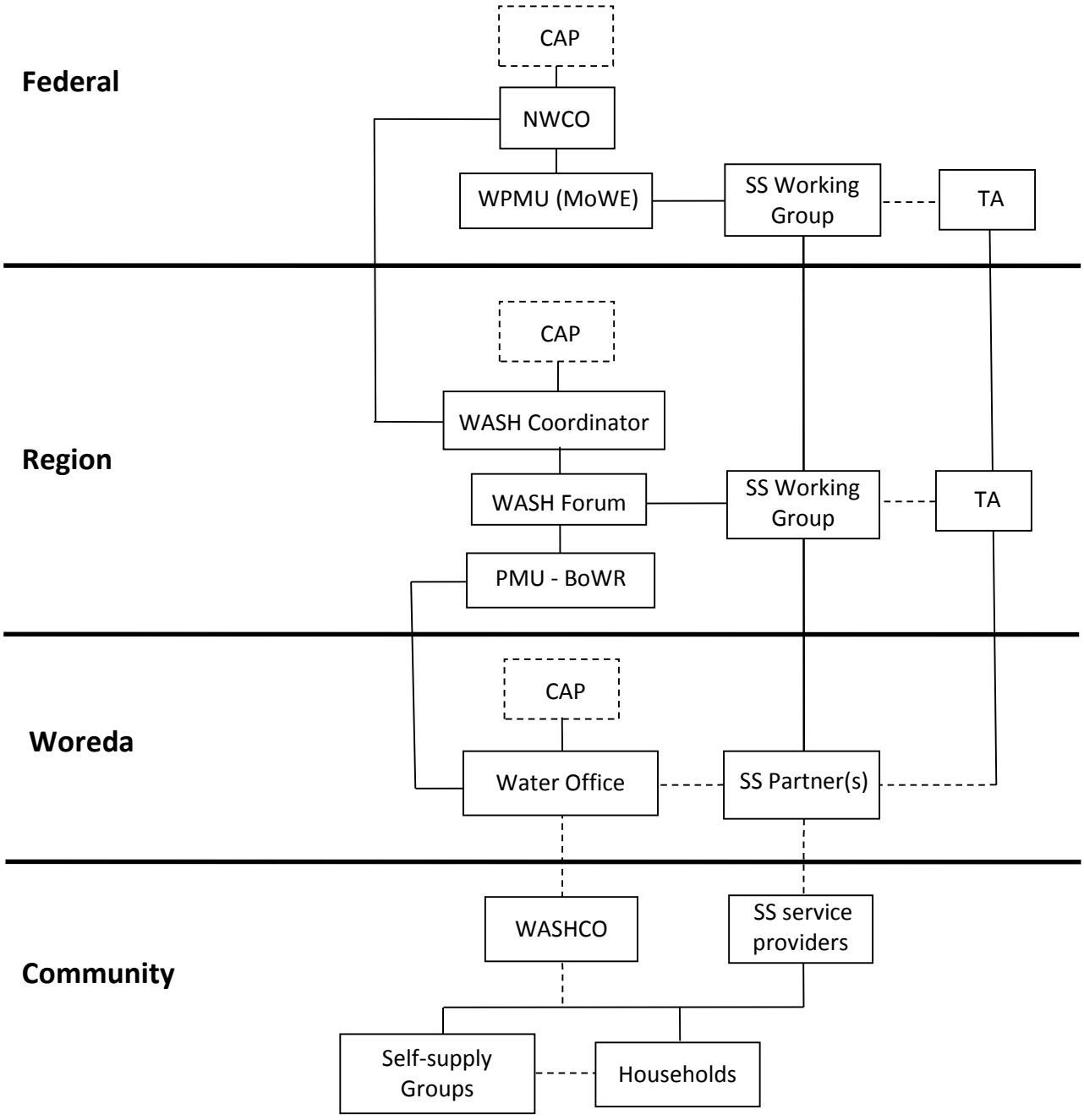
[41] Mammo, 2010; UNICEF, 2010.

[42] Guidelines to support contribution of improved Self Supply to the WASH GTP/UAP, Addis Ababa, January 2012.

1. Self Supply sources which reach minimum standards are incorporated into woreda and regional level coverage data (e.g. through the National WASH inventory) and reported as part of the national sector coverage statistics.
2. In each *focal woreda*, at least five local enterprises (e.g. well diggers, masons, rope pump suppliers, household water treatment suppliers) are able to provide products and services on a commercially viable basis to private water users, communities and institutions.
3. Rural dwellers in the *focal woredas* have informed choice about three to five affordable and reliable technologies for Self Supply.
4. Reliable and fair financial mechanisms in the *focal woredas* are accessed by private households, communities and private enterprises to improve rural water supplies. At least 5 MFIs provide services to support households and businesses related to Self Supply.
5. At least 20 woredas (four woredas per region) and 10 NGOs promote the Self Supply approach and associated good hygiene and sanitation practices in rural areas.
6. Woredas in areas with good potential for Self Supply, estimated to be around half of all woredas, are aware of Self Supply activities in the 20 focal woredas and equipped with guidance and reference materials for replicating self supply activities in their own woredas.
7. A robust network for Self Supply is in place at national and regional level as evidenced by reports and minutes of meetings, and active contributions are made to national forums on Self Supply in Ethiopia.
8. There is a significant increase in numbers of households investing in their own water supplies (both new sources and upgrading existing sources) and have adopted good hygiene and sanitation practices in the *focal woredas* and beyond, based on reported data by woredas, updated national WASH inventory and other surveys.

The following diagram shows the organizational arrangements for the Program's support to Self Supply.

Figure 10-1: Organizational Diagram for Support to Self-Supply (SS)



Key: CAP-Consolidated Annual (WASH) Plan
WPMU- WASH Program Management Unit

10.3 WASH Training Centers of Excellence

10.3.1 Ethiopian Water Technology Institute (EWTI)

A Proclamation was issued in June 2013 establishing the EWTI (formerly the EWTEC) as a research and training institute with an Advisory Board appointed by GoE. The Institute will offer higher-level training to

graduates from TVETCs and other institutions as well as the private sector. The Institute also offers training to TVETC teachers. The Institute is also in a position to support the improvement of skills to micro and small enterprises that can in turn provide WASH products and services.

The Program will make use of the services of EWTI to provide training to WASH staff, TVETCs and the private sector to increase the availability of skilled personnel to provide services to the WASH sector.

10.3.2 TVETCs and HSCs

In the recent WASH capacity assessment it is observed that the Capacity Building Project has conducted capacity assessments of 16 TVETCs and HSCs through SNV and Water Aid. These assessments identified the following capacity gaps:

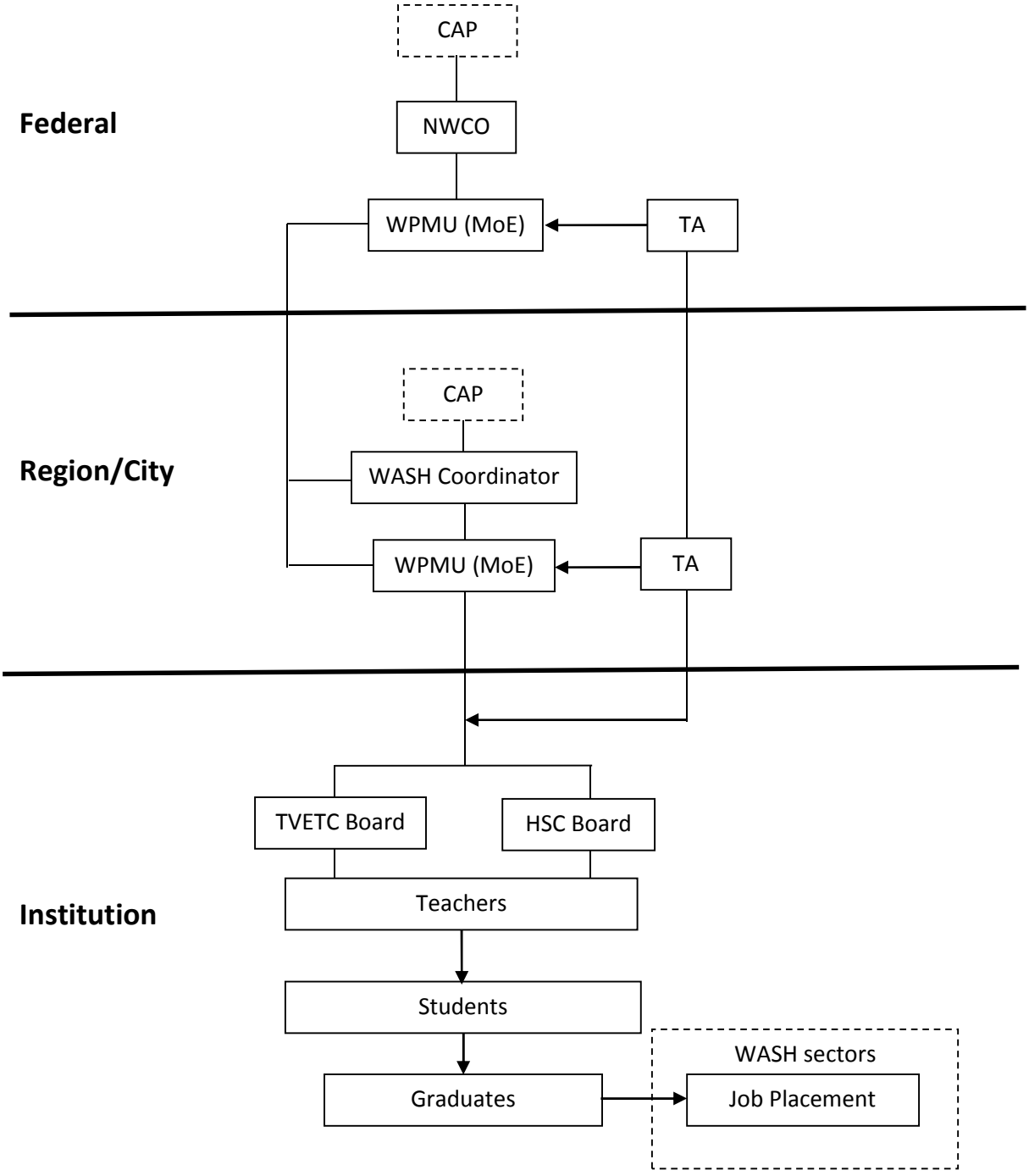
- Limited and/or non-existence of essential physical and training resources, including equipment and tools, reference books, logistics and support facilities
- Not adequately consulting relevant WASH stakeholders when planning training
- Deficiencies in assessing and responding to their environments and developing appropriate training strategies and programs
- Skill gaps among instructors in conducting practical training, with only a few teachers having completed teaching methodology courses
- Limited knowledge of WASH policies and strategies

To further institutionalize and professionalize the training of much-needed skilled technicians for the WASH sector. The Program will seek to replicate and scale up the support to TVETCs and HSCs provided through UNICEF, SNV, Water Aid and other organizations to additional TVETCs and HSCs. This assistance will include support to curriculum development and lesson planning, teacher training and basic training equipment and tools for workshops and laboratories.

The Program will also support short-term professional and technical training by EWTI and other institutions to produce a cadre of trained WASH technicians with relevant knowledge and skills. Training modules can be prepared or adapted through technical assistance or collaborative arrangements among training institutions, including universities, in and outside Ethiopia.

The following diagram shows the organizational arrangements for the Program support to TVETCs and HSCs.

Figure 10-2: Organizational Diagram for Support to TVETCs and HSCs



Key: CAP - Consolidated Annual (WASH) Plan
WPMU- WASH Program Management Unit

10.4 Supply Chains for Water Supply and Sanitation Products and Services

The low demand for handpump spare parts makes it difficult for communities and artisans to access spare parts within a reasonable distance and at an affordable price. MoWE has made an assessment of supply chains in 2010.[43] This study showed that supply chains for hand pumps and spare parts, largely driven by market forces, were still in their infant stage in Ethiopia. The study recommended that procurement of hand pumps and spare parts be combined and private suppliers motivated to open and operate sub-regional outlets. The practice of providing spare parts free to communities should be discouraged I order to increase the incentives for private suppliers to enter this market.

In regard to sanitation facilities the recommendations of a sanitation supply chain study in Amhara Region published in February 2012 by WSP and SNV identified the following three business models:

i. ''Nisuhe lehulume'' (clean for all) – for household latrines in rural areas. Affordable technologies such as slabs/plastic pans are developed or adapted and promoted with distribution and services.

ii. ''Nisuhe lesferu" (clean for local)–adapted/expanded latrines to local contexts. Low-cost technologies in design and slab production at local level are promoted. Masons and businesses are linked with health workers and supported by service providers.

iii. Promotion, distribution and service modalities for existing products like sanplats and Turkish pans are supported to extend outreach to rural areas.

To promote economies of scale, sanitation and handpump supply chains can be combined and piloted using trained women and youth entrepreneurs that, if successful, could be considered for scaling up. To make supply chains more commercially viable products relating to a healthy household environment like household water treatment and safe storage could also be combined with handpump spare parts and sanitary products.

10.5 Improving Efficiency in Construction and Operation of Urban Water Supply Systems

Many urban water supply projects in Ethiopia encounter significant delays in planning and implementation due to lengthy identification and selection process, procurement procedures, poor performance of contractors, cost escalation and budget overruns, among other reasons.

To address these constraints, transaction times and costs can potentially be reduced or controlled by one or more of the following means:

1. Offering contracts in larger lots, for example for studies, borehole drilling, source development for more than one town with similar types of sources, civil works, electro-mechanical installations, wastewater treatment facilities, etc.

2. Turnkey contracts combining feasibility studies, detailed designs, business planning, construction supervision and post-construction support. Turnkey contracts combining civil works and electro-mechanical installation have already been awarded by the Water Resources Development Fund (WRDF). It is reported that the implementation period has been reduced from over two years to around one year.

3. Framework contracts with a consortium of firms/organizations to provide a suite of services to a group of towns over a longer time period also has a potential to significantly reduce transaction costs and time.

[43] Region Specific Supply Chains for Hand pumps and Spare Parts in Ethiopia, MoWE, May 2010.

4. Service contracts between town utilities and private operators to operate completed water supply schemes can also be considered where town utilities have limited capacity to operate and maintain systems can also be considered. In such arrangements, supervision/regulation of the operator is very important.

10.6 Mobile Technology for Transmission of Data and Information/Water Point Mapping

10.6.1 Mobile Data Storage and Transmission

The continued rapid expansion of mobile technology in rural and remote areas of Ethiopia creates unique opportunities for applications that support transmission of near real time information. This development opens up the possibility for community level monitoring using cell phones.

To harness this potential, the Program will support:

1. A One WASH website with access to current WASH plans, budgets, progress reports, WASH inventory data, information on upcoming events and relevant documents and maps.
2. Training in use of GPS devices and PDAs/tablets for generating and storing WASH data
3. Expanded internet connectivity for woredas
4. IT service and troubleshooting contracts
5. Training in use of MS Excel for data entry and reporting
6. Dedicated links to MIS and databases in MoWE, MoH, MoE and MoFED

These services will be provided by a firm procured through NCB and monitored and supervised by the NWCO. Experience from implementing the NWI in Somali Region using mobile phones and software for data entry and transmission will be very useful in this regard.

10.6.2 Water Point Mapping

Water Point Mapper is a software developed by Water Aid for displaying the spatial distribution and status of water points in rural and urban areas. It supports local level planning and can improve accountability for water sector performance at local and national levels. It uses the *Google Earth* application to visualize data. Once Google Earth has been installed on a computer, it can be run offline.

Water Point Mapper requires minimal training, can be downloaded as freeware, used offline in the field without an internet connection, generate a wide variety of maps, display photographs of mapped water points, works with shape as well as point data, is compatible with other mapping tools and is compatible with PDA or paper-based data collection.

The Program will support the wider use and application of *Water Point Mapper* to generate maps of water points as a planning tool at regional and woreda levels by supporting training to relevant staff and backup/troubleshooting for users.

10.7 Social Inclusion

The Program will promote and support social inclusion as an important strategy to enhance equity and reduce disparities in access to WASH services. The results of a social assessment being undertaken by Water Aid (August 2013) will be used to inform the Program's approach to social inclusion. Social inclusion will include gender equity and mainstreaming, resettlement areas and areas with high concentrations of ethnic minorities and pastoralists and institutional WASH facilities that do not restrict access to handicapped and disabled persons.

The Program recognizes gender equity and mainstreaming as an important cross-cutting issue to be supported and promoted by the Program. Women already occupy important managerial roles in the health and education sectors, but less so in the water and finance sectors. A WASH gender audit undertaken by the Women's Affairs Directorate, MoWE, when completed, will provide useful knowledge and guidance as well as a baseline for assessing change during the Program.

The Program's support to EWTI will include promoting and supporting the reintroduction of the gender training modules prepared by MoWE. The Gender Mainstreaming Implementation Guideline for the Water and Energy Sector (October 2012) will be introduced at a national workshop for WASH Coordinators and WASH PMU staff to be held early in Phase I. Other gender-related aspects of the Program include, but are not limited to, planned support to women and youth-led supply chains, construction of latrines at schools for girl students and the use of gender disaggregated indicators to monitor Program results.

10.8 Improved Generation and Sharing of WASH Knowledge and Experience

A large number of WASH-related activities and events take place in Addis Ababa and throughout Ethiopia at any given time. These events are presently organized by a variety of organizations; including ministries, donors, NGOs and others, with the host/sponsor preparing plans, making invitation lists, and making logistic arrangements. At present the planning of these events is not well coordinated, resulting in scheduling conflicts, information not reaching all relevant parties, and high transaction costs.

MoWE, in collaboration with RiPPLE, has established the Forum for Learning and Sharing on Water Supply and Sanitation (FLOWS). FLOWS is intended to serve as an umbrella for institutions, networks and forums to share learning and present the results of studies, pilot projects, lessons and results from ongoing implementation, global initiatives and other WASH activities.

The Program will contribute to quarterly FLOWS meetings which can be hosted by members on a rotating basis. Membership in the Forum will also be open to consultants and other WASH service providers and interest persons. At least once a year the Forum can meet outside of Addis Ababa in a region/city, with the host region/city preparing a presentation on the status of WASH in the region/city. The FLOWS meeting will be followed on a second day by a field trip to sites selected by the host region/city.

Organizations engaged in WASH activities are encouraged to use FLOWS and the Sector Learning and Sharing Forum supported by the WASH Ethiopia Movement as the platform for presenting information about their work and receiving information and news about other WASH activities in the country.

Other related forums exist, such as the Ethiopian WASH Alliance and others. The NWCO should make an effort to coordinate the plans and disseminate information about the activities of these forums to a wider audience.

10.9 Climate screening and resilience

To improve year-round water security and resilience of schemes to drought, the Program will promote and support better understanding of available water resources and climate risk and improved design and siting of schemes. This will include:

- developing linkages between WASH and water resources assessment and monitoring;
- mapping and understanding of groundwater resources;
- development and use of simple climate risk screening and assessment tools – including catchment screening to assess the balance between available supply and projected demand,
- development and training on sizing and siting of rural water points to reduce vulnerability to dry seasons and drought periods

- meetings held with relevant stakeholders in agricultural and environmental departments to ensure coordination with natural resource management (NRM) interventions and watershed committees in vulnerable areas.

The Program, in collaboration with COWASH, will provide technical assistance to develop a detailed climate screening and resilience approach for the Program.

10.10 Program Communication Strategy

To expand public awareness, knowledge of and commitment to the Program, the Program should move beyond its institutional framework and appeal to the public as potential beneficiaries. This will be achieved through support to a multilevel multimedia communication strategy that will include:

- A "One WASH" logo, mascot and slogan
- Topical spots aired on regional radio stations
- Short programs with health and hygiene messages on ETV and educational broadcasting
- Posters, billboards, banners, pamphlets, stickers and flyers commemorating special events
- WASH educational kit for use in schools
- Use of Goodwill Ambassador(s) and national celebrities to create awareness and spread relevant messages
- Profiling the Program at World Water Day, Earth Day, through photo and art contests and other events in collaboration with the WASH Media Forum

11. Technical Assistance

11.1 Introduction

The Program is pursuing ambitious targets while at the same time seeking to fill gaps in capacity at a number of levels. This, coupled with and the relative size and complexity of the Program, the many new roles and responsibilities it entails at all levels, the absence of a robust regulatory and monitoring framework and the promotion of new organizational framework, contracting modalities and technologies, make the provision of relevant and timely Technical Assistance (TA) an important element in supporting effective Program implementation, especially during Phase I.

11.2 Types of Technical Assistance

Technical Assistance (TA) will serve the following purposes in the Program:

1. Facilitate introduction and institutionalizing new Program organizational elements, approaches and procedures
2. Improve capacity of IPs to perform their prescribed roles and responsibilities in the Program
3. To provide services that require expertise not presently found in the Program's IPs
4. To provide independent assessments and verification of Program outputs and compliance with Program criteria, procedures and standards, to identify bottlenecks and constraints to effective implementation and identify remedial measures.

TA will be provided at federal, regional, city, zonal, woreda and town levels. Planning, coordination, management and quality assurance of TA will be the responsibility of GoE through its contacting entity. TA will be engaged through one of the following modalities, which differ from TA in the usual project-based approach, where TA is recruited and managed by a single client or project.

These modalities are; (i) by GoE through WPMUs in participating ministries and bureaus at federal, regional or city levels using funds from the Program budget; or (ii) directly by a partner, which can be a bilateral or multilateral aid agency, CSO or other organization. In both modalities, TA will be provided according to a consolidated annual WASH plan and budget, including a procurement plan. Priority will be given to short-term TA, and each TA input will be accompanied by a TOR with specific deliverables that relate to a Program output and will be subject to prior approval by the NWCO. Anticipated requirements for Technical Assistance in Phase I of the Program are shown in Annex 9.

12. Program Monitoring and Review

12.1 Introduction

Due to the size and scope of the Program and its new elements, procedures and organizational arrangements, it is essential to closely monitor the Program planning and implementation process and provide timely feedback to Program management. This will be done through:

1. Monthly and quarterly progress and financial reports from kebeles, woredas/towns[44], regions/cities and zones.
2. Status/issues reports by the NWCO and WASH Coordinators to quarterly meetings of the One WASH Steering Committees at federal and regional levels
3. Semi-annual Joint Technical Reviews (JTR) and follow-up actions
4. Annual Multi-Stakeholder Forums (MSF) and follow-up actions
5. Infrastructure Audits/Sustainability Checks and follow-up actions
6. Joint supervision visits to Program sites
7. TA and hardware support to strengthen Program monitoring and reporting systems at all levels

12.2 Reviews[45] and Reporting

12.2.1 Reviews

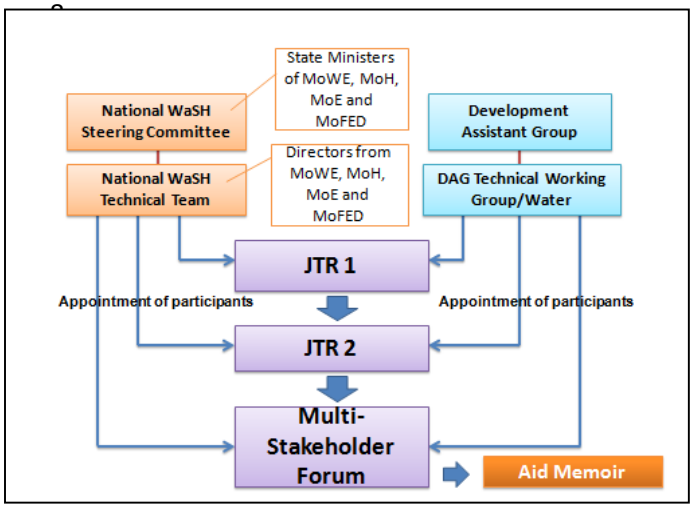
In the WASH sector review process, two Joint Technical Reviews (JTR) and one WASH sector Multi-Stakeholder Forum (MSF) are planned annually. Similarly, regional Multi-Stakeholder Forums will be conducted at regional level once a year prior to the MSF at federal level. The results of the review process are contained in an agreed Aide Memoire containing prioritized undertakings.

The purpose of the JTR is to reach a consensus on the state of the sector and agreement on priority actions/undertakings, and responsibility for tracking implementation of the agreed undertakings to improve sector performance. The organization and process for reviews are shown in Figure 12.1 below.

[44] Monthly reports from kebeles, woredas and towns may be done by telephone.

[45] This section is excerpted from an unpublished report prepared by Arto Suominen, COWASH, Addis Ababa, n.d.

Figure 12.1: WASH Sector Review Organization and Process



12.2.2 Program Monitoring, Reviews and Reporting

The NWCO and Technical Teams at national and regional/city levels in collaboration with independent agents will carry out Program monitoring and reviews as follows:

The NWCO will receive and compile progress and budget utilization reports from the regions and cities for presentation to the NWSC and provide feedback to the regions and cities on issues requiring attention from the federal level.

The Program will support a strengthened M&E function in the NWCO and in regions, towns and woredas by ensuring that sufficient staff are in place, training M&E staff in monitoring procedures and responsibilities, data management, reporting and related subjects. Training will be followed up by on-the-job coaching and mentoring.

Technical Teams at national and regional/city levels will be responsible for following up on implementation of the recommendations of the JTR and MSF and submitting a quarterly status report to the NWCO commencing within three months of each JTR/MSF.

In addition, Infrastructure Audits/Sustainability Checks will be undertaken at least annually by independent consultants/organizations supervised by and according to TORs prepared by the NWCO.

12.2.3 Progress Meetings and Reporting

Program progress meetings will be held as follows:

- The KWT will hold quarterly and annual Program progress meetings with WASH stakeholders.
- The WWT will conduct quarterly and annual Program progress meetings with Woreda WASH stakeholders including Kebele representatives.
- The RWCO will conduct quarterly and annual Program progress meetings with regional WASH stakeholders including zonal and woreda representatives.

- The NWCO will conduct quarterly and annual Program progress meetings with national WASH stakeholders, including regional representatives.

Program reporting sequence and frequencies are as follows:

- The KWT submits monthly[46], quarterly and annual WASH progress reports to the WWT
- Woreda (WWT) submits monthly[47], quarterly and annual WaSH progress reports to Zone/Region
- Region (RWCO) submits monthly, quarterly and annual WASH progress reports to the NWCO
- The NWCO submits monthly, quarterly and annual WASH progress reports to the NWTT and through it to the NWSC. The DAG will receive copies of these reports from the NWCO.

Program progress reports will include both physical and financial status. Monthly and quarterly Program reports will show physical progress against planned activities and/or outputs, while the annual report will show achievements in meeting annual targets, i.e. output and outcomes.

13. Funding and Financial Management

13.1 Introduction

The total funding required to achieve the GTP water supply, sanitation and hygiene targets is USD 2.41 billion. To achieve the GTP targets, effective institutional arrangements and procedures need to be in place to ensure the smooth flow of funds as well as the timely availability of adequate financial resources and to track their use.

13.2 Principles

The guiding principles for Program financing are:

- The cost recovery strategies promulgated in the water resource management policy
- Different financing sources for urban water, urban wastewater and rural water supply
- Consideration of existing financing practices
- Consideration of the available financial resources
- Urban residents through utility funding should contribute at least the same share of costs as rural communities

13.3 Assumptions

The assumptions for Program financing are:

- To determine the total financial contributions from Government, budgets at federal, regional and woreda/city levels are included
- Community contributions are assumed to be 10% for both urban and rural communities. Rural communities will contribute 5% in cash and 5% in kind (labor, materials, etc.) Community contributions for low and high technology systems will vary during implementation considering the ability of communities to contribute. The contribution of urban residents is also assumed to be 10% and will come from the utility's own earnings. By larger utilities higher proportion of co- financing will be attempted while by smaller towns maximum contribution will be limited to 10% because of

[46] Monthly reports from kebeles may be done by telephone.
[47] Monthly reports from woredas may be done by telephone.

their current financial situation. However, the program encourages utilities to attain higher cost recovery ratios. Particularly during phase 2 higher cost recovery ratios will be set.

- Federal and regional government contributions are assumed to increase during the planning period.
- City administration contributions are computed by assessing current matching fund allocations for water supply and wastewater projects. It is also assumed that these contributions will increase.
- Donor contributions are estimated by assessing individual donor commitments.
- WASH contributions from NGOs are assumed to continue at the present level.
- Investment funding from water utilities are assumed as user contributions.

13.4 Funding Contributions and Gap

Sources and size of projected funding for the Program are shown in Table below. According to present estimates, there will be around USD 1.63 billion available out of a required USD 2.41 billion, resulting in a funding gap of USD 0.778 billion, or about 32% of the total funding requirement.

Table 13-1: Indicative Program Funding by Source and Funding Gap – Phase I (USD million)

Source	Amount(mUSD)	%
Grant	214	13.1%
Loan	350	21.4%
Government	858	52.5%
NGOs	80	4.9%
Communities	131	8%
Total	1,633	
Required Finance	2,411	
Available Finance	1,633	68%
Funding Gap	**778**	32%

Figure 13-1: Program Funding by Source

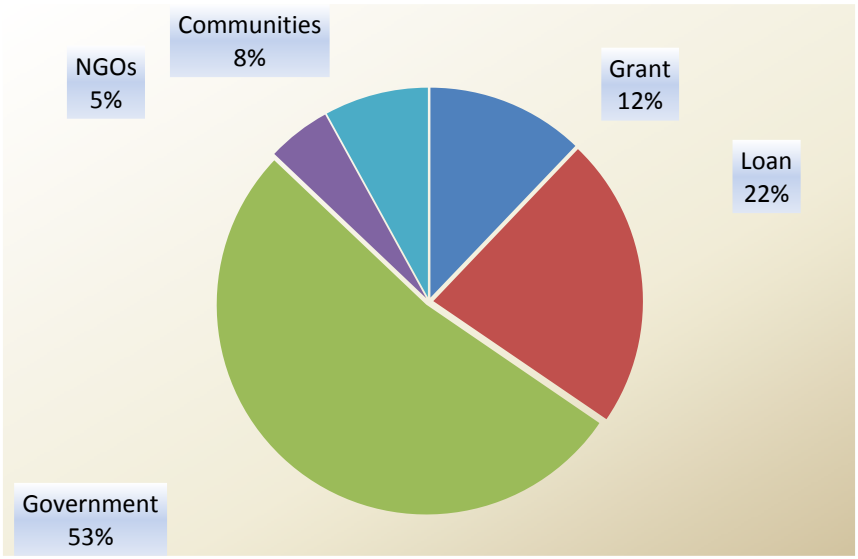


Table 13-2: Indicative Donor Commitments – Phase I (USD million)

Source	Indicative Commitment	2013-2015	Grant	Loan	Remarks
AfDB	90	36	20	16	
World Bank	150	52.5	13	39	
UWSSP		180	7.5	173	For 6 towns
WSSP		22		22	To be utilized in 2013
DFID	160	44	44		
Italian Cooperation	24	20	3.9	16	
AFD (France)	33	25		25	
Finland		22	22		
UNICEF	100	50	50		
JICA	84	10	10		
Emergency WASH	30	10	10		
Netherlands	5	3	3		
China soft loan	100	60		60	For AAWSA
EU	32	30	15	15	For 15 towns
Total	**807**	**564**	**214**	**350**	

The above information has been provided by the individual donors. The total commitment for the entire Program period is estimated to be USD 807 million, from which USD 564 million is to be disbursed up to 2015. From the total of USD 564 million which is committed for Phase I, USD 262 million is committed for ongoing projects.

The World Bank has indicted that USD 202 million are available for ongoing projects and USD 150 million of new financing. From the new financing, USD 52.5 million is planned to be disbursed up to 2015.

DFID's commitment up to 2018 is GBP 106 million, from which GBP 14.5 million will be channeled through UNICEF. AfDB is also anticipating financing USD 90 million to the Program, but the planned disbursement for 2015 is not known. An assumption is made that 35% of the total commitment will be disbursed up to 2015.

There is a funding gap of 32% or 0.778 billion USD.

Since the funding gap is large and can negatively affect achievement of the Program's targets, the following measures to reduce the funding gap will be considered, among others:

- Creating awareness and encouraging government at all levels to allocate additional funds to WASH activities
- Improving incentives for the private sector to provide WASH services
- Appealing to committed donors to provide additional funding
- Appealing to interested but uncommitted donors to contribute to the Program
- Introducing cost-effective designs; water supply, drilling and borehole construction methods; low-cost technologies, renewable energy sources, etc.
- Increased emphasis on self-supply, and in urban areas on reducing demand through water efficiency audits, water conservation, reuse and other demand-management measures.

13.5 Mitigation measures for budget availability and utilization risks

The utilization rate for GOE financed projects is much higher than the donor financed projects. Therefore, the mitigation measure shall focus on ensuring budget availability.

The following measures can reduce the risk of interruptions and shortfalls in budget allocation:

- Introduce a mechanism in the Joint Financing Agreement with a specific section stating that all parties should ensure the timely availability of committed funds.
- Design project financing so that the sequence of works to be financed by the GOE come first to force GoE WASH structures to avail the committed budget
- Use all available forums to create awareness on the importance of GoE's budget allocation
- Introduce biannual forums to review availability of funds and ensure that corrective actions are taken.
- Designing mechanisms that ensure SPG (special purpose grants) dedicated to WASH are actually spent on WASH activities.
- Matching funds from water utilities, cities and regions should be on-budget and captured in budget proclamation
- National WASH Steering Committee to take steps to ensure that national authorities allocate the committed budget
- In cases where part of committed GOE budget cannot be made available for justifiable reasons, bring donor funding forward with the agreement that next fiscal year the GoE will increase its budget allocation.

13.6 Financial Management

In line with the principle of alignment with Government systems the Program will follow GoE's financial management rules and policies. MoFED will be responsible for the overall financial management of the Program and will carry out financial management in accordance with sound financial management procedures including internal control mechanisms in line with GoE's financial management policies and guidelines.

13.6.1 Sources of Funding

Program funding comes from the following sources:

- Government of Ethiopia
- External Financing Agencies (investors/Development Partners)
- Non-Governmental Organizations (NGOs)
- Participating communities in rural areas
- Water utilities' earnings

Government of Ethiopia

The Government of Ethiopia's contributions come from federal, regional, town and woreda level. Government financial support for WASH is, for the most part, by way of the Block Grant that is channeled from the Federal to the Regional governments for both recurrent and investment costs. While the block grant amount will be allocated to WASH at regional level as regional contribution, federal government contributions come as special purpose grants like the MDG fund, Food Security Program, etc. that will come to regions and then part of the fund is allocated to WASH at regional level.

City administration also put substantial amount of contributions as direct grant to utilities or as co-finance to donor financing.

External Financing Agencies

Donor contributions made specifically for the Program constitute the core (Consolidated WASH Account) budget. Donors that will contribute to the Program but not through CWA will be considered in the consolidated annual plan resource mapping.

Non-Government Organizations

NGOs are investors in, and implementers of, the WASH program. Their funds, however, do not flow through government channels and are therefore "off-budget". However, NGO planned expenditures on WASH are also included in consolidated annual plan resource mapping.

Communities

All communities undertaking WASH projects make a cash/in-kind contribution to construction/installation costs. These contributions are also "off-budget" but are recorded and reported and included in the resource mapping that initiates annual WASH budgeting in the woredas. Community contributions to the Program include contributions from rural communities and urban residents.

Water Utility Earnings

Urban resident's contribution is through water service charges. Consequently, the water utilities contribute in OWNP from own earnings in the WASH fund. It will be accounted at town level for grant programs while for loan financed projects it will be included in to CWA at federal level through transfers as co-financing.

13.6.2 Financial Management – Roles and Responsibility

Federal Level

MoFED is responsible for the financial management of GoE and CWA funds. Specifically, MoFED:

- Opens foreign currency accounts for Development Partners and request and receives funds
- Opens a Birr account and transfers Development Partners' funds into a Consolidated WASH Account
- Transfers funds, on the basis of approved plans, budgets and reports, to special accounts (foreign currency account too if required)opened by the WASH ministries (MoWE, MoH, and MoE) and the BoFEDs
- Ensures that adequate internal controls are in place and adhered to
- Reports on use of WASH funds to government, Development Partners and other stakeholders
- Ensures timely replenishment of the Consolidated WASH Account and fund disbursement to implementing agencies (WPMUs and BoFEDs) and NWCO through MoWE.

Sectoral ministries are responsible for reporting to MoFED on all Program financial matters.

Regional Level

BoFED is responsible for management of GoE and CWA funds at regional level. Specifically, BoFED:

- Opens a special account to receive WASH funds from MoFED;
- Maintain the budget of regional sector bureaus and disburse WASH funds to the same;
- Transfers funds, on the basis of approved plans and budgets, to special accounts opened by the RWCOs, the 4 Regional WPMUs and the WoFEDs;

- Monitors performance and receives reports from WoFED
- Provides technical support to ensure that proper accounting systems and competent accounting staff are established and maintained in each implementing agency;
- Provides internal auditing,
- Issue of necessary detailed guidelines to all implementing agencies in the management and administration of OWNP funds
- Maintains regular communication with the implementing agencies
- Ensures timely replenishment of the regional WASH account and fund disbursement to the implementing agencies (RWCO, RWPMUs, WoFED and towns).
- Prepares and submits financial reports to MoFED and regional government

Woreda Level

WoFED is responsible for managing GoE and CWA funds at the woreda level.

- Opens a special account to receive WASH funds from BoFED
- Ensures that proper accounting systems and competent accounting staff are established and maintained
- As a member of WWT assists the WWT in the planning and budgeting process
- Facilitates timely fund replenishment
- Provides the WWT with regular financial reports
- Collects and aggregates required financial data and information and submits reports to the Woreda Administrative Council (Cabinet) and BoFED each quarter
- Disburse payments to WASHCOs based on authorization of the WWT

Town Level

(a) Loan Component

Water utilities are directly responsible for administering the loan component transferred for water supply expansion.

- Opens a special account to receive loan from WRDF
- Transfers the own contribution amount to WRDF as per agreed schedule
- Ensures that proper accounting systems and competent accounting staff are established and maintained
- Provides the WRDF with regular financial reports
- Collects and aggregates required financial data and information and submits reports to the WRDF each quarter

(b) Grant Component

The grant component is transferred from BoFED to ToFED office. The ToFED office disaggregates the WASH fund in water supply and sanitation component based on the approved budget. The grant for water supply improvement is transferred to the water utility. Other WASH components are managed by Town Finance and Economic Development Office.

If small town utilities recognize lack of capacity to implement the WASH fund they can delegate the regional/zonal water office in writing. They will request BoFED to transfer the grant amount to the regional/zonal water sector institution to implement their activities.

13.6.3 Fund Flow and Channeling of Funds

a) Fund Flow

The preferred and primary fund flow will be Channel 1b through CWA.

Channelling of Development Partners' funds will be as follows:

- Development Partners will confirm their precise contributions within the bilateral agreements between MoFED and the individual Donors.
- Development Partners will inform MoFED of their annual contribution not later than November for the next fiscal year based on the annual work plan agreed in October.
- Donor contributions will be channeled to special foreign currency special accounts at the National Bank of Ethiopia (NBE) for each financing partners.
- Development Partners contribution's are transferred from a *Foreign Special Account* into the *Consolidated WASH Account* (CWA) administered by MoFED and
- Flow only through Channel 1b to the governmental WASH implementing agencies at federal level, through BOFED to regional implementing agencies and to WoFED.

Channeling of funds will be aligned to the Government's financial management system. Government contributions from federal level are channeled to BOFED either as SPG or block grants. In both cases the regions decide the amount of money to be used for WASH. The budgeted amount at regional level will either be transferred from BoFED to regional implementing agencies or WoFED.

At the Woreda level WoFED manages the WASH fund. WoFED will open a special account for WASH funds. In Woredas where CMP projects are implemented the WoFED will also open another account dedicated for CMP or can outsource the channeling of the fund to a service provider (Cooperative Bank, MFI). In either case the responsibility for managing Program funds will be WoFED.

The following figure shows the flow of funds in the Program.

Figure 13-2: Program Fund Flows

Fund disbursement Fund transfer Loan towns

B) Channeling of WASH Funds outside of CWA

B1) Channeling of WASH funds through BoFED

Some donor investments that are not channeled through CWA are made at the regional level through BoFED The fund channeling at regional level will be captured by BoFED as WASH fund and shall also be included in the quarterly financial reporting in a separate report from CWA.

B2) Channeling of WASH funds through implementing agencies

Some donors channel WASH funds through the implementing agencies like sector ministries and bureaus. However, they should be reflected in the WASH resource mapping, plans and reports and included in the *Composite WaSH Budget.* The NWCO shall design a budget tracking system and collect annual disbursements of the WASH funds and report to MoFED.

B3) NGO WASH funding

NGO funds do not flow through government channels and are not part of Program funding. These funds may be used at community level with some contribution the WASH activities at woreda, regional and national levels. NGO investments are captured in regional and woreda resource mapping and included in the consolidated WASH budget. The WASH allocation and their outputs/results are included in WASH reports. Information on NGO plans, budgets and expenditure on WASH activities should be reported to the NWCO through regional WASH coordinators and by the Water and Sanitation Forum.

C) Channeling of CWA Funds

C1) Fund Channeling through MoFED-BoFED-WoFED-ToFED

Step 1: From Development Partners to the Consolidated WASH Account

Step 2: From the Consolidated WASH Account to Federal and Regional Implementing Agencies (IAs)

On instructions from MoFED, the National Bank of Ethiopia transfers funds:

- **Federally** – into accounts opened for the three sectoral ministries (WPMUs) and MoFED for federal-level expenditures and for the NWCO into accounts opened at the MoWE and to WRDF for the loan component
- **Regionally** – to BoFEDs for onward transfer into accounts opened for:
  - the RWCO into accounts opened at regional water bureaus (for joint Program support)
  - the three sectoral Bureaus and BoFED (for WPMU-specific expenditures)

Fund Transfer from WRDF to Town as Loans

WRDF receives transfers from MoFED for the loan component:

- Transfers payments to special accounts of town water boards
- Matching funds from utilities, city administration and regions will be transferred to special account in WRDF

Transfers from BoFED to regional IA and Zones/Woreda Finance Offices

- **Regional /Zonal Sector Offices -** BoFED disburses funds to:
  - Regional Sector Bureaus for WASH expenditure
  - Zonal Finance Offices for WASH expenditure

Regional Water Bureau can delegate some activities to be effected by Zonal Sector Offices. The budget will be disbursed from regional water bureaus.

- **Town/Woredas** - BoFEDs also open accounts for, and disburses funds to:
  - WoFEDs for WWT expenditures
  - Participating towns (for town water supply and sewerage projects and other WASH activities)
- **CMP funds through WoFED**

  BoFED will transfer WASH funds directly to WoFED's account. In this case WoFED will open a special account dedicated for community WASH investment managed by the Woreda Finance Office. WoFED disburse WASH funds to communities after approval by WWT from the special account.

C2) CMP Fund Transfers through Service Providers

A main feature of the CMP approach is that funds for construction/rehabilitation of WASH facilities are channeled to the WASHCO who is responsible for implementation and procuring materials and services for the project. CMP funds can also be channeled through a service provider (e.g. a bank or MFI). In the COWASH Project MFIs are presently used as a financial intermediary to channel funds for CMP projects to WASHCOs.

WoFEDs, in agreement with the WASHCO, can decide to channel funds through a service provider. If a service provider is used, WoFED, in agreement with the community, will enter into an agreement with the service provider, subject to the prior approval of BoFED to ensure compliance with GoE's public financial management rules.

Disbursements to the service provider will be subject to prior approval from the WWT and WoFED. The service provider will submit monthly disbursement and utilization reports to WoFED. Original copies of relevant financial records will be maintained by the WoFED. WoFED will report quarterly to BoFED on utilization of WASH funds, including funds for CMP projects, with a copy to the WASHCO. Detailed arrangements will be agreed during detailed planning with the community based on CMP financial guidelines.

13.6.4 Fund Allocation

WASH funds are allocated to implementing agencies as follows:

Federal level

The Annual (National) WASH Plan and Budget specifies the amount of WASH funds to be budgeted at the national level for:

- Expenditure by the NWCO and by each of the four national WPMUs
- Expenditure on trans-sector national WASH activities
- Loan component to be transferred to Water Resources Development Fund

It also specifies the total amount to be allocated to the regions. Allocation among regions is prescribed by the government's Block Grant formula and annual WASH plans**.** Expenditures on trans-sectoral national WASH activities are those expenditures which are allocated for WASH integration and coordination and those that are expended for activities like JTR, MSF and other multi sect oral and monitoring activities.

Regional level

Annual Regional WASH Plans and Budgets specify the amount of WASH funds to be budgeted at the regional level for:

- Expenditure by RWCOs and by each of the four regional WPMUs
- Expenditure on trans-sector regional WASH activities

Regional level trans-sectoral expenditures are those expenses that are expended to facilitate regional level inter sect oral WASH activities like coordination, monitoring and joint intervention activities.

It also specifies the total amount to be allocated to the woredas and towns/cities. Recommendation for allocation among woredas and town/cities are made by the Regional WASH Steering Committee:

- On the basis of need/priority established in approved town/woreda Annual WASH Plans
- Within the framework of the Regional Strategic WASH Plan

In allocation of regional WASH funds to the woredas, the RWSC shall try to follow the policy of 30% for hygiene and sanitation and 70% for water, but the actual annual budget at woreda level will be defined based on needs identified during the annual planning process.

Woreda

The WWT's Annual WASH Plan and Budget specify the amount of funds to be budgeted at woreda level for:

- Expenditure on intersectoral WASH activities
  - The total amount to be allocated for WASH services investment with disaggregation for water, sanitation and hygiene
  - The community water supply investment divided into CMP and WMP components

Towns

The City Council's Annual WASH Plan and Budget specifies the amount of funds to be budgeted for:

- Intersectroral WASH activities
- The total amount to be allocated for water supply investment

13.6.5 Budgeting

Budget Preparation

Budgeting takes place based on forms and procedures designed by MoFED. Sector offices from federal ministries to woreda offices will be responsible for requesting WASH budget. It is based on a comprehensive resource mapping of all resources available to WASH at the given level, i.e. federal, regional, zonal or woreda/town. The basis for annual WASH budgets is approved annual plans, prepared at each level according to a common planning format provided by the NWCO.

WASH budget preparation will follow the government budget preparation schedule. The budget approval process for WASH budget will also follow existing government regulations. While the Development Partners' component is budgeted at federal level the government contribution will be budgeted at respective institutional levels of the government.

a) Budgeting at Federal Level

The budgeting process begins with the announcement of MoFED of the ceiling for WASH budget. Based on the ceiling and the approved annual WASH plan the federal ministries of Water and Energy, Ministry of Education and Ministry of Health will identify the budget requirement for federal management and federal implemented WASH activities based on the agreed "Consolidated annual WASH plan". The three sector ministries submit their annual WASH budget to MoFED. The NWSC through NWCO will coordinate the budget preparation process of the three sector ministries. The NWCO budget will be allocated through the MoWE.

b) Regional Level

The NWSC through the NWCO and will inform regions the WASH targets for the fiscal year. MoFED will provide the Regions with indicative CWA budget ceilings. RWCO will prepare regional annual WASH plan based on the regional targets, woreda and town WASH plans and regional sector bureaus plans. This will be the basis for the budgeting process. They will consolidate the regional plan based on aggregated woreda and town plans including regional WASH activities. The regional sector bureaus then will prepare their annual budget request and submit to BoFED. BoFED will review the budget request based on available resources from CWA and block grants and propose annual budget for the sector bureaus and it will be approved by regional council. The RWCO budget will be allocated through the Regional Water Resource Bureau.

c) Woreda Level

The WWT will prepare annual WASH plan which will eventually be approved by the Woreda Council. The basis for annual WASH plans is the woreda WASH targets from the region. The woreda sector offices will prepare their WASH annual budget based on the budget ceilings provided by WoFED. The sector office budgets will be submitted to WoFED. The WWT will coordinate the budget preparation process. The Woreda WASH budget will be approved by Woreda Council.

d) Town Level

In towns there are two major WASH structures; Water Utilities and WASH Technical Team. Their activities are coordinated by the City council. The budgeting process follows the same pattern. The town water board (responsible for the water utility) will prepare annual capital budget for water supply improvement and will be submitted to town finance and economic development office. The health and education office will also submit their annual budget to town finance and economic development office. The town finance and economic development office will prepare the aggregate WASH budget and submit to City council for approval.

Budget Control

MoFED, the BoFEDs and the WoFEDs are responsible for recording, maintaining and controlling WASH budgets at the federal, regional and woreda levels respectively. MoFED ensures that sufficient trained personnel are in place to handle the financial management requirements at each level. Provision is made in the WASH structure for each of the governmental Implementing Agencies to have their own accounting staff to administer WASH funds on a full or contractual basis. MoFED, BoFED and WoFED are responsible for financial reporting; the WASH structures will be primarily responsible for monitoring WASH implementation and provision of guidance to implementers.

Budget control is exercised to ensure that WASH funds are being spent as planned with respect to categories, cost, timeliness and value for money. Primary responsibility for budget control in WASH is with the WASH accountants. However, managers at each level (Woreda Sector Offices, Regional WASH Sector Offices and the Federal WASH Sector Offices) will review on a monthly basis the financial reports prepared by their respective budget sections and take whatever action may be required to ensure effective budget control.

The main tools for budget control will be budget codes, ledger cards, and budget tracking.

13.6.6 Consolidated WASH Account at federal level

The disbursement procedure for Consolidated WASH Account will be as follows:

- Donor's disbursement will be made biannually. Condition for first disbursement is the approved Consolidated Annual WASH Plan. For the first disbursement of the fiscal year, Development Partners will advance at least 50 percent of their expected annual commitment.
- The Development Partners' initial deposits into the program Foreign Currency Special Accounts with National Bank of Ethiopia constituted their advances to the Program.
- Contributions will be converted into Birr and transferred to the Consolidated WASH Account managed by MoFED.
- MoFED disburses funds, as advances for the first six months of the Program, into WASH accounts established for implementing agencies at the federal and regional levels.
- A second payment will be made in December, following submission by MoFED in October of a Interim Financial Report setting out details of eligible expenditures in the first quarter, the

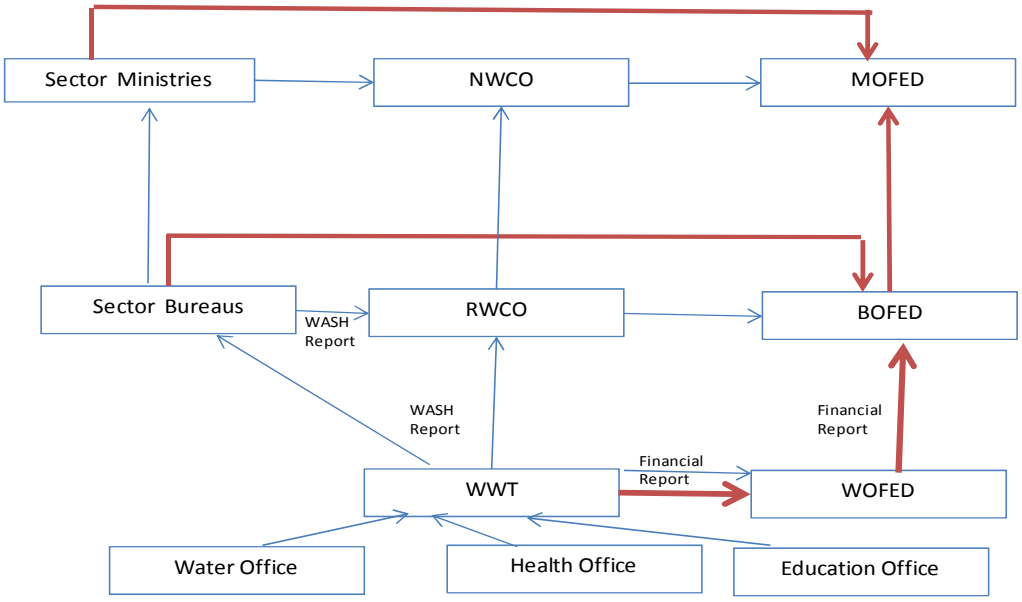
balances in the relevant accounts (including unspent funds carried forward from the previous year), and the work-plan and cash-flow forecast for the second and third quarters. The condition for disbursement is utilization of at least 50% of the first transfer.

- MoFED continues, on the same basis, to make biannual replenishment requests to the Development Partners six weeks in advance of scheduled expenditures.
- Upon receipt of replenishment from the Development Partners, MoFED immediately transfers funds to the Implementing Agencies.

MoFED's requests are supported by Interim Financial Reports for the previous quarter.

Fund requests should always include financial reporting. The process of reporting is illustrated in the figure below.

Figure 13-3Financial Reporting



Implementing Agencies' Accounts

MoFED's and BoFEDs' disbursement of funds to the governmental implementing agencies follows the same pattern. Initially, each implementing agency receives a 1st quarter and 2nd quarter advance based on its approved Annual Work Plan and Budget. At the end of 1st quarter the agency prepare a report on expenditures together with, and a request for, replenishment to cover the amount budgeted for the 3rd quarter less the amount of unexpended funds from the 1st quarter. This "roll over" system means that implementing agencies always have in hand their budget for the upcoming quarter.

Request/reports are vetted and approved at a higher level in each instance and consolidated into the Quarterly Report and Request for Replenishment presented by MoFED to the Development Partners.

Disbursements of Loans to Towns

Disbursement of loans to water utilities will not follow quarterly period. The cash transfers from WRDF to utilities will be dependent on procurement plan. However, utilities are required to submit quarterly financial reports for WRDF to review cash flow situation and plan for next disbursement. Detailed disbursement schedules will be agreed between the WRDF and the utility.

Payments to WASHCOs

Payment to WASHCOs will follow similar process regardless of the fund channeling (WoFED/Service Provider like cooperative bank or MFI). After signing the Funding Agreement WWT chairperson writes a letter to WoFED in order to notify the signatories of the WASHCO and to release the first installment to WASHCO. The WASH accountant opens sub ledgers for all participating WASHCOs with in the cash account.

The first installment shall be made available to WASHCOs within three weeks from the date of signing the Funding Agreement. All payments to WASHCOs will be approved by the WWT.

Second installment of payments will be paid when 80% of the first installment is expended and evidence for transaction is submitted to the CMP supervisor.

The receipts and transaction evidences shall be submitted by WASHCOs to the CMP supervisor and he will work with WASHCOs to clean up all receipts and documents. Then the CMP supervisor will submit the documents to the WASH accountant.

If the WASH accountant does not approve the documents then he will give it back to the CMP supervisor for his follow up and correction.

13.6.7 Bank Accounts

Bank Accounts

Program bank accounts and the process flow and the purpose of the accounts, are described below:

- MoFED opens foreign currency special accounts at the National Bank of Ethiopia (NBE) for each financing partners. In addition, it opens Birr accounts into which funds from the donors' special accounts will be converted and deposited. The Birr accounts serves as a consolidated fund for all donors, MoFED will be responsible for the day-to-day management of the special accounts and the pooled Birr account.
- A Bank Account, which will be operated by two official signatories, will be opened in the name of OWNP at each implementing ministries and WRDF.
- MoFED at the federal level will transfer funds to the Federal implementing ministries including WRDF and BoFED bank accounts
- The regional BoFED will open bank accounts for each of the Bureaus of Sectoral Offices to be operated by joint signatures of BoFED officials
- BoFED also open account and disburse the funds to the towns, and Woreda Finance Office bank account, based on approved WASH plan.
- Each woreda will open Woreda Bank Account, which will be operated by joint signatures of WoFED officials
- Woredas choosing to implement CMP modality will open a "community water investment account" to operated by joint signatories of Woreda officials
- Each town will open Town Bank Account, operated by joint signatories of the town.

- Each town water utility open special bank account, which will be operated by joint signatories of the utility.

Accounts to be opened at regional and woreda levels are solely dedicated for WASH funding and operations.

13.6.8 Financial Reporting

The objectives of financial reporting by the public finance management entities (from federal to woreda level) are to provide information about the program that is useful to participants for accountability purposes and for decision-making purposes.

Financial reports will be prepared and submitted quarterly. Financial reports will be prepared by WoFED, BoFED and MoFED respectively. WoFED reports to BoFED and BoFED reports to MoFED. MoFED compiles and reports to Development Partners.

The financial reporting at each level shall facilitate the distinction of budget utilization to the sources of the fund. For this purpose financial plans will be prepared at each level indicating the source of finances. The financing plan then will be the basis for financial reporting and budget control.

The financial reports will be in line with the financial management system of the GOE and will be complemented by source and use of funds.

The quarterly financial reporting will include the following:

- trial balance
- revenue reports
- expense report
- receivable report
- payable report
- monthly bank reconciliation statement

Additional statements to satisfy the One WASH Program are financial reporting requirements:

Statement of Special Accounts

This is a statement showing summary of the movements of each of the financers' special USD bank accounts.

13.6.9 Fixed Assets

All assets purchased for the Program shall be expensed upon purchase. This is important because, the program is run using pooled funds that will need report of all expenditures as and when incurred.

Fixed assets register would be maintained as per the FGE manual with all the necessary details to know about the location and user of the assets.

An identification number should be given to each of fixed assets, as per the government policy, with indicators showing the assets belong to the One WASH Program.

13.6.10 Preservation of Financial Documents

According to Financial Documents Preservation Guideline No 5/1999 of MoFED, financial documents shall be preserved for ten years from the date they were created or up to two years after the audit by the Auditor General is completed, which ever comes last. For further detail please refer the guideline.

Documents refer to all the ledger cards, registers and supporting documents. Program documents shall be kept separately and shall be filed in a way that makes referring to the documents very easy. The filing system should enable auditors and anyone who is authorized to review Program documents to easily and systematically trace the required documents and information.

13.6.11 Internal Controls

To satisfy the effectiveness and efficiency of the Program's financial management system to the Government and Development Partners, it is essential to develop adequate internal control systems at each and every level. Internal control should be used to support the Program in achieving its objectives by managing its risks, while complying with rules, regulations, and policies of the Program. The Program should therefore make internal control part of program management and integrate both in its overall governance system.

The Program should determine the various roles and responsibilities of different units and personnel with respect to internal control.

The Program should particularly introduce control mechanisms including requirement for approvals, authorizations, verifications, reconciliations and segregation of duties. Program management should foster an organizational culture that motivates members of the program to act in line with risk management strategy and policies on internal control set by the Government of Ethiopia to achieve the program's objectives.

The management and key personnel of the Program should be sufficiently competent to fulfill the internal control responsibilities associated with their roles.

Controls should always be designed, implemented and applied in a response to specific risks like procurement and disbursement. Internal control principles of the Program should be fully understood and correctly applied by all relevant parties.

Safeguards at WASHCO level

- The community signs a funding agreement which specifies the obligations of the community.
- For the payment to be released from the bank/MFI, two signatories from WWT shall authorize based on recommendations of the CMP supervisor on the progress of the work
- The artisan and the WASHCO shall prepare and sign jointly progress reports for payment release to be effected and their report shall be verified by woreda water office staff
- The WASHCO shall submit expenditure documents for 80% of advance or previous payment for another request to be effected.

13.6.12 Auditing

According to the Ethiopian Constitution, the Office of Federal Auditor General (OFAG) is responsible for carrying out the audit of all the financial transactions of the federal government and subsidies to the regions. The whole program finance will be audited by OFAG or competent auditing firm assigned by the OFAG.

Internal audits will be carried out in line with the internal audit guidelines of the GOE. The results of internal audits will be made available to external auditors. The implementing agencies are responsible for follow up of audit recommendations.

External audit will be carried out at the end of the fiscal year. MOFED and Development partners will agree on the TOR and schedule of the audit. MoFED will facilitate the audit and that the report is provided to the Development Partners. The audit will be conducted by an independent certified auditor. The audit report

will include an audit of all program bank accounts, and will specifically identify and audit the pooled fund eligible expenditures.

Development Partners may request a performance related audit to be carried out by an external auditor. The Partners will provide adequate resources for such a purpose. The selection of the auditors and timing for such audit will be done in close collaboration between MoFED and the Development Partners. The development partners and GOE will jointly agree on the TOR. Based on the outcome of such audit, the Development Partners may convey to GOE any corrective measures they consider necessary to be undertaken.

A periodic joint spot check will be carried out maximum twice a year. The spot checks will be carried out by independent body as agreed between the signatories. The spot checks will focus on high risk areas as identified by Fiduciary Risk Assessment. The independent body conducting the spot check will report to the implementing agency and after agreed on the outcome; will submit official report to MoFED. MoFED will notify development partners about the results of the spot check and its full report as required.

An independent evaluation of the performance of the Program will be carried out based on the advice of the MoFED at periodic intervals. The evaluation reports will be submitted to the Government of Ethiopia and to the Financing partners for review and comments.

Independent evaluation of the Program will include;an assessment of the adequacy of accounting and internal control systems to monitor expenditures and other financial transactions and ensure safe custody of project-financed assets; determining as to whether the program implementing entities have maintained adequate documentation of all relevant transactions and verification that the annual financial statements reflect the actual financial situation of the Program.

For this, the auditor should obtain a sufficient understanding of the internal control structure of the institution as it relates to the One WASH Program, evaluating control risks and identifying reportable conditions, including material weaknesses in the internal control structure. Deficiencies and weaknesses that do not affect the financial statements may be discussed in a Management Letter, which should report weaknesses in the internal control system, the deficiencies observed, and other findings.

Audit reports must include a summary of the main audit procedures used for planning the audit, evaluating the internal control structure, checking of the figures included in the financial statements and other reports subject to audit, and the evaluation of the compliance with terms of the applicable agreements, laws and regulations.

Annual external financial audits will be planned and coordinated by the Program Steering Committee and managed by the NWCO. The auditor will present their report and management letter to the Steering Committee, who will be responsible for taking follow-up actions.

13.7 Taxation

National Wash Steering Committee should identify WASH investment areas where tax and custom privileges to the program can bring reduction of costs and can enhance effectiveness of the Program. The priority WASH investment areas for tax and custom privileges should be submitted for the approval of the Government of Ethiopia as soon as possible in order to gain the advantages for the program.

13.8 Per diems

Effective program implementation can only be assured if implementing agencies can regularly conduct supervision of works, monitoring of community activities and periodic consultation at all level. In order to achieve these motivated and competent staff at all level should be maintained. One main reason for lack of motivation is the occurrence of different per diem rates within the same program. Therefore, the National

WASH Steering Committee should establish uniform per diem rates across the program and get approval from appropriate authorities of the

14. Procurement and Contract Management

14.1 Introduction

During regional consultations held during March and April 2013, procurement and contract management was identified as major constraint in implementing WASH activities. The Program will make use of the public procurement system and procedures and established procedures for contract management. Ministries, regional bureaus and woreda offices will use standard bidding and contract documents that comply with government rules and regulations[48] for procurement of works, goods and services.

Given the existing capacity constraints at all levels, efficient procurement and contract management is a challenge that can adversely affect implementation of the Program. Therefore, capacity building support in procurement and contract management will be provided as TA to relevant staff at federal, regional, city, town and woreda level to help ensure the smooth implementation of Program activities.

Procurement manuals have been prepared by the Ethiopian government, the World Bank and African Development Bank, and attempts have been made to coordinate and align to these guidelines, which are commonly used for procurement and contact administration in the WASH sector. However, capacity limitations in the application and use of these procedures are often a major cause of delays in implementation of projects in the WASH sector.

14.2 Procurement Methods

The Program will recognize the following procurement methods:

Table 14-1: OWNP Procurement Methods

Method	Procurement by/through
Government of Ethiopia	GoE and CWA
Woreda managed projects	GoE and CWA
Community managed projects	WASHCOs
NGO projects	NGOs
World Bank	WASH II
Other partners	Respective partners
Self Supply	Households and groups

The methods to be followed for the procurement of works, goods and services will be specified in the annual procurement plans at federal, regional/city, woreda/town and community levels.

Packaging of services, works and goods is advantageous in terms of cost and time saving, in the same way procurement of works and goods can be combined in a turnkey contract as is being done by the WRDF in some urban water supply schemes. Where funds are available, longer-term framework contracts for services and works can be considered, as can combining procurement of pumps and spare parts in one tender.

[48] FDRE, User's Guide for Simple Requests for Quotations and Local Purchase Order. January 2006, and;
FDRE, Procurement services and contract administration – Amharic version. Addis Ababa, July 2002 EC.

Where the CMP approach is used, service providers at woreda level can be procured for services or construction work at community level with technical support from kebele and woreda levels as required.

Woredas and towns may also decide to delegate larger procurements to regional bureaus and regional governments, respectively.

Quality assurance (QA) is an important aspect of procurement. QA for goods can be undertaken in collaboration with the Ethiopian Standards Authority (ESA). The Ethiopian Water Technology Centre can also contribute to the QA of WASH goods, products and works.

Procurement guidelines have been prepared by the Ethiopian government, the World Bank and African Development Bank, and attempts have been made to coordinate and align these guidelines, which are commonly used for procurement and contact administration in the WASH sector. Ministry, region, city and woreda procurement staff are familiar with the content of these guidelines, however capacity limitations in the application and use of these procedures have often been a major cause of delays in implementation of projects in the WASH sector.

14.3 Program Procurement Requirements

The Program will require the following types of procurement:

Services

1. Service providers, including artisans, at woreda level providing the following services:
    - Planning and design of water supply schemes
    - Sitting and surveying
    - Post-construction support to communities
    - Community mobilization and training of WASHCOs
    - Training water supply caretakers and mechanics
    - Financial services
2. Consultants or firms at regional or national level to:
    - Build capacity of woreda WASH teams, prepare annual, strategic and procurement plans
    - Conducting hydrogeological investigations including borehole siting and drilling supervision
    - Carry out study and design for water supply schemes
    - Conduct studies for rehabilitation and expansion of water supply schemes
    - Supervise construction, rehabilitation and expansion of water supply schemes

Works

1. Service providers constructing:
    - New hand dug wells and installation of pumps
    - New spring capping
    - Rehabilitation of existing point sources
    - Construction/rehabilitation of institutional sanitation facilities
2. Drilling contractors at regional or national level for:
    - Drilling shallow boreholes and installation of hand pumps
    - Drilling deep boreholes, pump installation and construction of distribution system

3. Contractors at regional level or artisans at woreda level for:
    - Rural piped gravity schemes from spring sources
    - Rural piped schemes from spring sources with motorized pumping
    - Rehabilitation and expansion of water supply schemes
    - Construction/rehabilitation of institutional and public sanitation facilities
    - Rural piped schemes supplied from deep boreholes (excluding drilling)

Goods

1. Service providers, including artisans, at woreda level supplying:
    - Handpumps and spare parts
    - Construction materials
    - Sanitation materials
2. Region-based suppliers supplying:
    - Tools for HDW contractors
    - Office supplies
    - Hand pumps and spare parts
    - Submersible pumps with accessories and spare parts
    - Generators with accessories
    - Pipes and fittings
    - Sanitation materials
    - Desludging equipment
    - Sewerage works (only in Addis Ababa)

Procurement of design and construction supervision works by service providers licensed at woreda level will be done at woreda level by the Woreda Finance Office in collaboration with the Woreda Water, Health and Education offices as required. Design and supervision of up to 4-5 water supply schemes or construction of latrines in a group of institutions in one kebele can be packaged and offered as one contract in order to take advantage of economies of scale.

Turnkey contracts combining civil works and supply of electromechanical equipment in urban water supply schemes have been executed under the WRDF. Turnkey contracts combining design and construction can also be considered, as well as other contracting modalities such as framework contracts and outsourcing.

14.4 Procurement Methods

The Program will follow the Procurement Proclamation issued by the Federal Government (January 12, 2005) and the subsequent Procurement Directives released by MoFED. At regional level the procurement code is enacted by regional governments and the procurement directive adapted to each Region based on a model prepared by the Federal Government.

According to the Government's policy to decentralize and devolve responsibility, WASH procurement is carried out, as far as possible, at the level where the goods are utilized and the services delivered to build capacity for local procurement.

The procurement plan is an essential component of annual WASH plans. Training and technical assistance will be available to assist regions, towns, woredas and community planners. Procurement plans are

consolidated by WWTs and regional and federal WASH Coordination Offices. Procurement at all WASH cost centers will be reported quarterly.

Procurement of works and goods can be combined in a turnkey contract as is being done by the WRDF in some urban water supply schemes. Where funds are available, longer-term framework contracts for services and works and can be considered, as can combining procurement of pumps and spare parts in one tender.

Where the CMP approach is used, licensed service providers at woreda level can be procured for services or construction work at community level with technical support from kebele and woreda levels as required.

Procurement requires quality assurance (QA). QA for goods can be undertaken in collaboration with the Ethiopian Standards Authority (ESA). The Ethiopian Water Technology Institute (EWTI) can also contribute to the development of standards, BOQs and specifications for works, goods and services.

14.5 Program Interventions

The adequacy of procurement and contract management capacity for the implementation of the Program at all relevant levels will be assessed using a standardized questionnaire early in Phase I of the Program. The Program will support the provision of qualified needs-based training to relevant staff on public procurement and contact management as a practical training using actual cases.

Due to its critical importance for the timely completion of Program activities, procurement and contract management will be the subject of periodic reviews by independent evaluators. Follow-up compliance with recommendations from these reviews will be important for ensuring Program effectiveness.

As small contractors are expected to bid for contracts up to a threshold of USD 100,000, the Program will support the training of small contractors at regional and city in collaboration with contractors' associations to improve their ability to successfully bid for these contracts. Contractors and consultants are also expected to perform ethically in accordance with a mutually agreed code of conduct.

14.6 Construction Supervision

Effective supervision of construction is essential to ensure the quality and functionality of works. However, construction supervision has typically not received sufficient attention in water supply projects, and the ultimate responsibility for supervision has been diffuse and unclear. As a result, deficient works in some schemes had to be redone by abandoning the earlier structures, or required excessive maintenance without delivering the intended service. This resulted in increased project costs as well as negatively affecting the integrity, safety and functionality of the schemes.

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In water supply projects, especially in rural areas and small towns, supervision has carried out by the regional bureaus. Supervision of water supply works in medium and large town is usually outsourced to the private sector. Supervision is not typically done through daily on-site inspections, but rather through periodic site visits.

The capacity for adequate supervision of construction needs strengthening. Inspections should assess the validity of design assumptions; identify variations between actual site conditions and designs, to adjust designs according to changed parameters if required. Supervision should help to ensure that construction is

carried out according to plans, design and specifications and certify that work is progressing according to schedule, and that quality and costs are monitored.

Appropriate supervision skills are essential if projects are to be completed on time, within budget and meet quality standards. The Program will promote measures to address existing shortcomings in construction supervision practices through supporting preparation of standardized supervision/inspection reports and guidelines.

Supervisors must have adequate knowledge in water supply/civil designs and construction methods, materials, manpower requirements as well as time scheduling and costing. At woreda, zonal and town levels, construction supervision and contract management will be strengthened through the provision of professional training to supervisors and provision of technical assistance to prepare manual and guidelines for supervision of medium and large water supply schemes. Training will be provided by qualified trainers from a recognized training institute. Training should also include the private sector; TSGs and WSGs and supervision of drilling as well as civil works, electro-mechanical instillation, pipes, pumps and other materials, manpower and input and cost control.

15. Program Costs and Budget

15.1 Introduction

The Program planning process includes two converging and complementing processes (scenarios); (i) projections based on updated models used in preparing the UAP & SAP, and (ii) a process based on information received from the regions and cities. The two processes will be compared following an iterative process. The two scenarios have reasonably converged as can be seen from the two sections (2.411 billion USD versus 2.438 billion USD)[49]. It could therefore be concluded that the adjusted regional plan i.e. scenario II is verified. It is foreseen that regions could make use of the scenarios in accordance to their specific situations and preferences.

15.2 Program Planning Process

The planning process is iterative, being done in several steps. The present situation has to be assessed; service levels and problems have to be identified. Then, targets are set to address the problems or increase service levels to reach the intended targets.

By comparing the present situation with the targets, it is possible to identify important issues and possible solutions. These possible solutions are quantified, using planning models as briefly illustrated in sections below. Issues were identified, following which solutions and the quantification of the identified solutions were worked out.

The model output is a Program that will serve as a national multisectoral SWAp for WASH activities. Additional outputs of the model are "consequences" of the plan, such as financial needs and sectoral and institutional requirements. Based on results of monitoring and periodic reviews, updates and adjustments will be made to the planning parameters.

For the conceptual framework for program planning, see Annex 10, Figure A10-1.

[49] In this document scenario I is shown in this chapter i.e. Chapter 15 while scenario II is enclosed in Annex 11. Scenario II is slightly higher since schemes lean towards high technology. Physical and Financial Comparisons of the two scenarios are shown in Annex 11 Table A11.14 and Figure A11.8.

15.3 Program Physical and Resource Requirements

15.3.1 Planning Parameters

Urban water supply

- Generates resource requirements based on town categories
- A design period of 7 years
- Per capita costs generated from prevailing rates for various town categories
- Complementary use of existing systems is considered for determining resource requirements
- Regional factors are used for labor availability, infrastructure and costs. The highest factors are assigned to Afar and Somali regions.

(3) Urban sanitation

- Generates resource requirements based on town categories
- Resources for desludging, facilities are determined using the model
- Public toilet requirements for 350 towns are determined based on acceptable assumptions
- Current rates are adjusted by 2.5% per annum for determining rates
- Regional factors are used to take labor availability, infrastructure and related matters into consideration (The highest factors are for Afar and Somali regions.)

(4) Rural and peri urban sanitation[50]

- The model calculates resource requirements in three areas i.e. creation of enabling environment, creation of demand, facilitation of supply from kebele to federal level
- Prevailing rates escalated at 2.5% per annum are used for determining rates
- Regional factors are used to take labor availability, infrastructure and related matters into consideration. The highest factors are assigned to Afar and Somali regions.

15.3.2 Planning Criteria

The planning criteria used for Phase I are as follows:

- Rural water supply: 15 liters per capita per day within 1.5 km radius
- Urban water supply: 20 liters per capita per day within 0.5 km radius
- Rural and peri-urban sanitation: reduce open defecation by constructing both traditional and improved latrines using the CLTSH approach.
- Urban sanitation: Sewerage will be considered in Addis Ababa, while desludging facilities and provision of public toilets will be considered for other towns.

The assumptions used in preparing the physical and financing plan are presented in Annex 10.

15.3.3 Price Inflation

In mid-2013, the official inflation rate in Ethiopia is around 7.5%. It is assumed this figure will decrease to around 5% by 2015. The estimated foreign portion of the Program budget is 50% and the local component is 50%. Domestic inflation is estimated to be about 3%. The foreign inflation rate is estimated to be around 1% annually assuming a prevailing foreign inflation rate of 2%. The local and foreign inflation rate together

[50] Based on the model used for the SAP (2012)

is 3.5%. Since the USD has been used in the current Program, the inflation rate can be lowered to 2.5% to compensate for depreciation of the ETB.

15.4 Access

15.4.1 Rural and Urban Water Supply

According to the GTP targets, water supply access is expected to be 98.5 %. The plan by region for rural and urban water supply is shown below.

In Somali and Afar regions the rural water supply target is 70%, while in other regions the target is 100%. The target in urban areas is 100%.

Table 15-1: Rural and Urban Water Supply Access by Region and Year (%)

No.	Region/City	Base Year	Phase I		Phase II				
		2013	2014	2015	2016	2017	2018	2019	2020
1	Tigray								
	Rural	62	81	100	100	100	100	100	100
	Urban	75	87	100	100	100	100	100	100
	Total	65	82	100	100	100	100	100	100
2	Gambella								
	Rural	78	89	100	100	100	100	100	100
	Urban	90	95	100	100	100	100	100	100
	Total	81	91	100	100	100	100	100	100
3	B. Gumuz								
	Rural	74	87	100	100	100	100	100	100
	Urban	72	86	100	100	100	100	100	100
	Total	73	87	100	100	100	100	100	100
4	Dire Dawa								
	Rural	84	92	100	100	100	100	100	100
	Urban	76	96	100	100	100	100	100	100
	Total	79	89	100	100	100	100	100	100
5	Harari								
	Rural	88	94	100	100	100	100	100	100
	Urban	98	99	100	100	100	100	100	100
	Total	94	97	100	100	100	100	100	100
6	Somali								
	Rural	60	65	70	76	82	88	94	100
	Urban	75	88	100	100	100	100	100	100
	Total	62	68	74	79	85	90	95	100
7	Amhara								
	Rural	67	84	100	100	100	100	100	100
	Urban	74	87	100	100	100	100	100	100
	Total	68	84	100	100	100	100	100	100
8	Afar								
	Rural	44	57	70	76	82	88	94	100
	Urban	60	80	100	100	100	100	100	100
	Total	47	61	75	80	85	90	95	100

No.	Region/City	Base Year	Phase I		Phase II				
		2013	2014	2015	2016	2017	2018	2019	2020
9	SNNPR								
	Rural	54.5	77	100	100	100	100	100	100
	Urban	79.5	90	100	100	100	100	100	100
	Total	58.2	79	100	100	100	100	100	100
10	Oromia								
	Rural	67	83	100	100	100	100	100	100
	Urban	86	93	100	100	100	100	100	100
	Total	69	85	100	100	100	100	100	100
11	Addis Ababa								
	Urban	93	97	100	100	100	100	100	100
	Total	93	97	100	100	100	100	100	100
12	National								
	Rural	63.24	80	97.4	97.9	98.5	99.0	99.5	100
	Urban	81.99	91	100	100	100	100	100	100
	Total	**67**	**83**	**98.5**	**98.83**	**99.12**	**99.41**	**99.71**	**100**

15.4.2 Water Supply Beneficiaries

A total of 26.6 million people in rural areas and 4.4 million people in urban areas are expected to benefit from Program water supply interventions as shown below. This will require the construction of 55,865 conventional schemes and 42,529 schemes through self supply.

Table 15-2: Rural Water Supply Access Status by Region and Year

No.	Region/City/Status	Year			Total
		2013	2014	2015	
1	Tigray				
	Served	2,310,740	3,045,600	3,791,000	
	Unserved	145,165	734,860	745,400	1,481,157
2	Gambella				
	Served	206,416	241,536	277,000	
	Unserved	20,672	35,120	35,464	70,627
3	B. Gumuz				
	Served	568,260	683,903	803,000	
	Unserved	73,690	115,643	119,097	234,882
4	Dire Dawa				
	Served	129,689	146,018	164,000	
	Unserved	14,099	16,329	17,982	34,332
5	Harari				
	Served	87,120	94,940	104,000	
	Unserved	2,614	7,820	9,060	16,890
6	Somali				
	Served	2,661,601	2,955,721	3,265,500	
	Unserved	242,268	294,120	309,779	604,268
7	Amhara				

No.	Region/City/Status	Year			Total
		2013	2014	2015	
	Rural	11,170,910	14,104,820	17,092,000	
	Unserved	1,178,858	2,933,910	2,987,180	5,924,678
8	Afar				
	Served	600,778	792,494	990,500	
	Unserved	100,128	191,716	198,006	389,958
9	SNNPR				
	Served	8,091,615	11,687,153	15,420,000	
	Unserved	940,725	3,595,538	3,732,848	7,332,829
10	Oromia				
	Served	18,349,170	23,478,862	28,812,000	
	Unserved	3,585,144	5,129,692	5,333,139	10,469,175
	National				
	Served	44,235,203	57,298,396	70,794,000	
	Unserved	6,311,603	13,063,193	13,495,604	26,558,797

The water supply access status of the urban population is shown below.

Table 15-3: Access Status by Region and Year – Urban Water Supply

Region/City/ Status	Year		Total
	2014	2015	
Tigray			
Served	1,048,800	1,264,000	
Unserved	196,828	215,200	412,028
Gambella			
Served	117,490	132,000	
Unserved	12,775	14,510	27,285
B. Gumuz			
Served	161,879	202,000	
Unserved	35,678	40,122	75,799
Dire Dawa			
Served	235,840	276,000	
Unserved	38,240	40,160	78,400
Harari			
Served	123,750	128,000	
Unserved	5,170	4,250	9,420
Somali			
Served	668,500	787,000	
Unserved	115,000	118,500	233,500
Amhara			
Served	2,720,490	3,307,000	
Unserved	535,270	586,510	1,121,780
Afar			
Served	232,000	308,000	
Unserved	68,800	76,000	144,800
SNNPR			
Served	2,429,533	2,856,000	
Unserved	397,513	426,468	823,980

Region/City/ Status	Year		Total
	2014	2015	
Oromia			
Served	4,324,034	4,880,000	
Unserved	502,916	555,967	1,058,882
Addis Ababa			
Served	3,139,145	3,338,000	
Unserved	191,045	198,855	389,900
National			
Served	15,201,460	17,478,000	
Unserved	2,099,234	2,276,541	4,375,774

15.4.3 Sanitation Access

To achieve the GTP targets, sanitation access will have to increase from 65.8% to 100%. Present and projected sanitation access by region and year are shown in the following table.

Table 15-4: Access to Improved Sanitation Facilities by Region and Year[1] (%)

No.	Region/City	Rural (%)			Urban (%)			Rural and Urban (%)		
		Year			Year			Year		
		2013	2014	2015	2013	2013	2014	2013	2014	2015
1	Tigray	77	88	100	90	95	100	80	90	100
2	Afar	54	77	100	59	80	100	55	77	100*
3	Amhara	82	91	100	87	94	100	82	91	100
4	Oromia	75	88	100	84	92	100	76	88	100
5	B. Gumuz	79	89	100	100	100	100	79	90	100
6	SNNP	88	94	100	98	99	100	88	94	100
7	Gambella	65	82	100	87	93	100	68	84	100
8	Harari[2]	-	-	-	77	88	100	77	88	100
9	Addis Ababa	N/A	N/A	N/A	96	98	100	96	98	100
10	Somali	57	78	100	65	82	100	58	79	100*
11	Dire Dawa	64	83	100	98	99	100	86	93	100*

[1] From the SAP (2012) in the absence of NWI data, NWI (2011) and SAP (2012) data are extrapolated since current data for 2013 was not available.

[2] Data for rural sanitation are not available.

A total of 33,623,380 people are expected to gain access to improved latrines in phase I.

15.5 Physical and Financial Plan

15.5.1 Rural Water Supply – New Construction

Some 55,865 point sources and piped schemes including 42,529 self supply household and community dug wells need to be constructed to achieve 100% access. The regional distribution of schemes by type to be constructed is shown below.

Table 15-5: New Rural Water Supply Facilities by Region, Type and Year

No.	Region	House Hold Dug well with Rope Pump	Community Dug well with Rope Pump	Dug well with Handump	Capped Spring	Spring with piped system	Shallow Borehole with Hand pump	Shallow Borehole with submersible pump	Deep Borehole with Piped Scheme	Multi village scheme	Rain Water harvesting	Cistern	Hafir Dam	Other	Year		Total
															2014	2015	
1	Tigray	-	-	947	185	-	785	186	138	1	-	-	-	-	1,121	1,121	2,242
2	Gambella	-	101	268	87	-	237	6	4	-	-	-	-	-	351	351	702
3	B. Gumuz	-	-	711	309	-	414	22	20	-	-	-	-	-	738	738	1,476
4	Dire Dawa	-	-	-	-	-	32	5	3	-	-	-	-	-	20	21	41
5	Harari	-	-	-	-	-	7	2	1	0	30	-	-	2	21	21	42
6	Somali	-	-	-	-	-	-	12	88	2	244	1,397	879	23	1,322	1,323	2,645
7	Amhara	7,088	9,479	8,068	1,724	17	2,718	326	135	-	-	-	-	-	14,778	14,777	29,555
8	Afar	-	-	-	-	-	267	27	51	-	475	670	-	-	746	745	1,491
9	SNNPR	1,222	1,955	4,438	4,588	143	2,640	684	356	-	1,467	-	-	77	8,785	8,786	17,571
10	Oromia	8,724	13,959	9,785	5,145	51	3,681	805	479	-	-	-	-	-	21,314	21,314	42,628
	Total	17,034	25,495	24,217	12,037	211	10,781	2,076	1,275	4	2,216	2,067	879	102	49,197	49,196	98,393

15.5.2 Rural Water Supply - Rehabilitation

Some **20,010** water supply schemes will need to be rehabilitated to reduce non-functionality to 10% in line with GTP target as shown below.

Table 15-6: Rural Water Supply Facilities to be Rehabilitated by Region and Year

No.	Region/City	Year		Total
		2014	2015	
1	Tigray	133	133	266
2	Gambella	87	87	174
3	B. Gumuz	233	233	465
4	Dire Dawa	9	9	19
5	Harari	14	14	28
6	Somali	998	998	1,995
7	Amhara	3,009	3,009	6,018
8	Afar	128	128	256
9	SNNPR	957	957	1,914
10	Oromia	4,438	4,438	8,876
	Total	**10,005**	**10,005**	**20,010**

15.6 Financial Requirement - Rural Water Supply

A total of USD 1,130,655,816 is required for rural water supply to achieve the target of 98% access. The distribution of this requirement by region and year is shown below. Of the total amount enhancement of self supply requires USD 8,598,098.

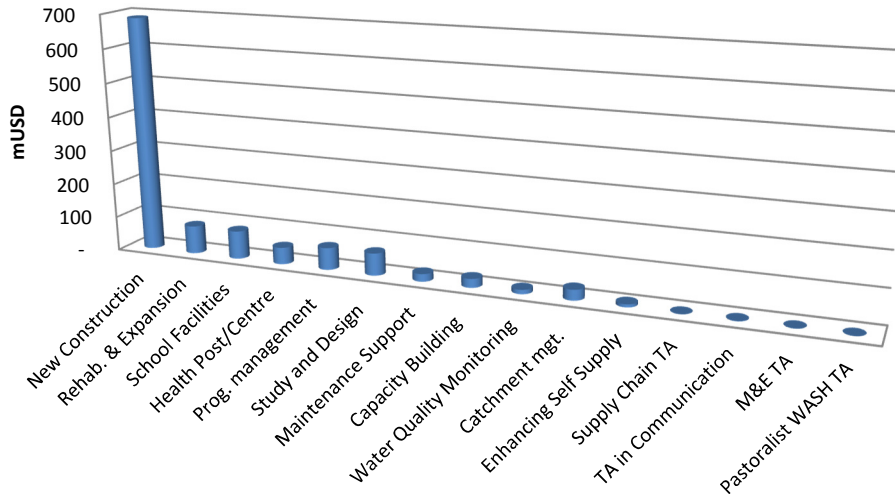
Table 15-7: Financial Requirement for Rural Water Supply by Region and Year (USD)

No.	Region/City/Year	Requirement	No.	Region/City/Year	Requirement
1	**Tigray**		**7**	**Amhara**	
	2014	33,309,636		2014	107,942,327
	2015	34,484,262		2015	111,771,873
	Total	67,793,898		Total	219,714,200
2	**Gambella**	-	**8**	**Afar**	-
	2014	5,957,522		2014	15,539,751
	2015	6,160,966		2015	16,244,986
	Total	12,118,487		Total	31,784,736
3	**B. Gumuz**	-	**9**	**SNNPR**	-
	2014	12,415,799		2014	129,303,426
	2015	12,943,972		2015	136,197,327
	Total	25,359,770		Total	265,500,752
4	**Dire Dawa**	-	**10**	**Oromia**	-
	2014	1,877,326		2014	196,649,343
	2015	1,979,897		2015	206,404,771
	Total	3,857,223		Total	403,054,113
5	**Harari**	-		**Federal**	-

No.	Region/City/Year	Requirement	No.	Region/City/Year	Requirement
	2014	1,409,963		2014	8,132,336
	2015	1,484,757		2015	8,228,168
	Total	2,894,720		Total	16,360,504
6	**Somali**	-	**11**	**National**	-
	2014	39,959,112		2014	552,496,540
	2015	42,258,299		2015	578,159,276
	Total	82,217,412		**Total**	1,130,655,816

As part of the overall rural water supply requirement the financial requirement for, program management, study and design, post-construction support, capacity building, water quality monitoring, and catchment management/environmental safeguards are determined in addition to construction and rehabilitation of water supplies for households, schools and health posts/centers. TA requirements for supply chain, communication, enhancing self supply, M&E and Pastoralist WASH are also included and are shown below.

Figure 15-1: Financial Requirement - Rural Water Supply by Line Item (million USD)



	New Construction	Rehab. & Expansion	School Facilities	Health Post/Centre	Prog. management	Study and Design	Maintenance Support	Capacity Building	Water Quality Monitoring	Catchment mgt.	Enhancing Self Supply	Supply Chain TA	TA in Communication	M&E TA	Pastoralist WASH TA
Million USD	687.50	81.89	82.17	48.97	64.38	64.99	22.03	25.65	12.36	30.57	8.60	0.24	1.00	0.23	0.10

15.7 Institutional Water Supply Facilities

Water supply facilities for 22,342 schools and 7,272 health centers/posts will need to be constructed or rehabilitated at a cost of USD 82.17 million and USD 48.97 million, respectively.

15.8 Urban Water Supply Physical and Financial Plan

Urban water supply activities will need to be undertaken in 777 towns to achieve 100% access during phase I as shown below.

Table 15-8: Planned Number of Urban WSP Schemes by Region and Population Category (Phase I)

Region	2014	2015	Total No of towns By Region Phase I
Harari	0.50	0.50	1
Gambella	5	5	10
Benishangul Gumuz	9	9	18
Afar	19	19	38
Dire Dawa	0.50	0.50	1
Somali	33	33	66
Tigrai	23	23	46
SNNPR	70	70	140
Amhara	82	82	163
Addis Ababa	0.50	0.50	1
Oromya	147	147	293
Total	389.5	389.5	777

USD 786,062,849 is required for implementing the urban water supply physical plan as indicated below.

Table 15-9: Financial Requirement for Urban Water Supply by Region and Year (USD)

Region/City	Activity	2014	2015	Total (USD)
Harari	Study and Design	-	-	-
	Capacity Building/Program Mgt.	292,977	300,302	593,280
	Environmental safeguards	43,946	45,045	88,992
	Immediate improvements	102,542	105,105	207,648
	Project implementation	2,431,715	2,492,508	4,924,224
Gambella	Study and Design	67,153	68,832	135,985
	Capacity Building/Program Mgt.	335,766	344,161	679,928
	Environmental safeguards	50,365	51,624	101,989
	Immediate improvements	117,518	120,456	237,974
	Project implementation	2,786,865	2,856,537	5,643,402
B. Gumuz	Study and Design	98,157	100,611	198,768
	Capacity Building/Program Mgt.	490,787	503,056	993,844
	Environmental safeguards	73,618	75,458	149,076
	Immediate improvements	171,775	176,069	347,845
	Project implementation	4,073,533	4,175,372	8,248,905
Afar	Study and Design	170,780	175,049	345,829
	Capacity Building/Program Mgt.	853,900	875,248	1,729,148
	Environmental safeguards	128,085	131,287	259,372

Region/City	Activity	2014	2015	Total (USD)
	Immediate improvements	298,865	306,336	605,202
	Project implementation	7,087,375	7,264,560	14,351,935
Dire Dawa	Study and Design	126,426	129,587	256,013
	Capacity Building/Program Mgt.	632,133	647,936	1,280,069
	Environmental safeguards	94,819	97,190	192,010
	Immediate improvements	221,246	226,777	448,024
	Project implementation	5,246,704	5,377,872	10,624,576
Somali	Study and Design	474,458	486,319	960,777
	Capacity Building/Program Mgt.	2,372,291	2,431,598	4,803,889
	Environmental safeguards	355,843	364,739	720,583
	Immediate improvements	830,301	851,059	1,681,361
	Project implementation	19,690,017	20,182,268	39,872,285
Tigray	Study and Design	578,810	593,280	1,172,090
	Capacity Building/Program Mgt.	2,894,050	2,966,401	5,860,452
	Environmental safeguards	434,107	444,960	879,067
	Immediate improvements	1,012,917	1,038,240	2,051,158
	Project implementation	24,020,618	24,621,133	48,641,751
SNNPR	Study and Design	1,087,595	1,114,785	2,202,381
	Capacity Building/Program Mgt.	5,437,978	5,573,928	11,011,906
	Environmental safeguards	815,696	836,089	1,651,786
	Immediate improvements	1,903,292	1,950,874	3,854,167
	Project implementation	45,135,223	46,263,604	91,398,827
Amhara	Study and Design	1,329,965	1,363,214	2,693,180
	Capacity Building/Program Mgt.	6,649,827	6,816,073	13,465,900
	Environmental safeguards	997,474	1,022,410	2,019,885
	Immediate improvements	2,327,439	2,385,625	4,713,065
	Project implementation	55,193,568	56,573,407	111,766,976
Addis Ababa	Study and Design	1,511,052	1,548,829	3,059,881
	Capacity Building/Program Mgt.	7,555,263	7,744,145	15,299,409
	Environmental safeguards	1,133,289	1,161,621	2,294,911
	Immediate improvements	2,644,342	2,710,450	5,354,793
	Project implementation	62,708,689	64,276,407	126,985,096
Oromia	Study and Design	2,261,760	2,318,304	4,580,064
	Capacity Building/Program Mgt.	11,308,800	11,591,520	22,900,321
	Environmental safeguards	1,696,320	1,738,728	3,435,048
	Immediate improvements	3,958,080	4,057,032	8,015,112
	Project implementation	93,863,044	96,209,620	190,072,665
National	Study and Design	7,706,160	7,898,814	15,604,974
	Capacity Building/Program Mgt.	38,823,778	39,794,372	78,618,150
	Environmental safeguards	5,823,566	5,969,155	11,792,722
	Immediate improvement	13,588,322	13,928,030	27,516,352
	Project implementation	322,237,357	330,293,291	652,530,648
Total		**388,179,184**	**397,883,664**	**786,062,848**

Note: The breakdown of budget for Addis Abba is based on the City's actual physical plan and budget.

15.9 Rural and Peri-urban Sanitation Physical Plan

The target for rural and peri-urban sanitation activities is to increase access to improved sanitation facilities and hygiene practices as shown in the following table.

Table 15-10: Projected Increases In Access to Improved Sanitation Facilities and Hygiene Practices

Item	Projected Increase	
	Present	Target
HHs with access to improved sanitation facilities	65.8%	100%
HHs using improved sanitation facilities	22%	82%
HHs practicing hand washing with soap or a substitute at critical times	9%	77%
ODF kebeles	17%	80%
HHs using home water treatment and safe water storage	10%	77%

15.9.1 Facilities

Some 36,712 institutional and communal sanitation facilities need to be constructed to meet the GTP targets as shown below.

Table 15-11: Institutional and Communal Sanitation Facilities by Type

Location	Type	Number
Schools	New	6,122
	Rehabilitated	15,122
Health posts/centers	New	7,037
	Rehabilitated	7,141
Prisons	New	350
	Rehabilitated	342
Public latrines	Rehabilitated	95
Communal latrines	New	95
	Rehabilitated	408
Total		**36,712**

15.9.2 Rural and Peri-urban Sanitation Financial Requirement

An estimated USD 398,861,727 is required to achieve the Program's physical targets. The regional distribution of the financial requirement is shown below.

Table 15-12: Total Financial Requirement for Hygiene and Sanitation in Rural and Peri-urban Areas by Region and Year (USD)

Region/City	Year		Total (USD)
	2014	2015	
Oromia	71,280,010	67,889,704	139,169,714
Amhara	37,850,719	51,917,939	89,768,659
SNNP	31,509,884	29,822,412	61,332,297
Tigray	17,477,654	16,928,856	34,406,511
Somali	15,368,220	14,596,454	29,964,675
Afar	5,570,485	5,221,2282	10,791,713
B. Gumuz	4,836,462	4,561,390	9,397,852
Dire Dawa	1,813,808	1,530,510	3,344,318
Gambella	3,223,504	2,978,454	6,201,958
Harari	1,672,888	1,090,217	2,763,105

Region/City	Year		Total (USD)
	2014	2015	
Addis Ababa rural[1]	5,381,116	5,341,651	10,722,768
Federal	881,865	116,286	998,152
Total	**196,866,620**	**201,995,106**	**398,861,727**

[1] Areas outside AAWSU's service area but within the administrative area of Addis Ababa City Administration with rural characteristics

USD 143,998,185 is required for hygiene and sanitation promotion as shown below.

Table 15-13: Financial Requirement for Hygiene and Sanitation Software Activities in Rural and Peri-urban Areas by Region and Year (USD)

Region/City	Year		Total (USD)
	2014	2015	
Federal	881,865	116,286	998,152
Afar	2,527,328	2,204,618	4,731,947
Amhara	18,051,491	15,995,531	34,047,023
B. Gumuz	2,192,366	1,896,571	4,088,938
Dire Dawa	1,035,211	817,963	1,853,174
Gambella	1,178,268	926,087	2,104,356
Harari	1,104,777	609,105	1,713,882
Oromia	25,577,443	22,127,306	47,704,750
SNNP	12,587,382	10,886,577	23,473,959
Somali	5,390,171	4,631,708	10,021,879
Tigray	6,284,445	5,674,098	11,958,543
Addis Ababa rural[1]	713,386	588,189	1,301,576
Total	**77,524,139**	**66,474,045**	**143,998,185**

[1] Areas outside AAWSA's service area but within the administrative boundaries of Addis Ababa City Administration that have mostly rural characteristics.

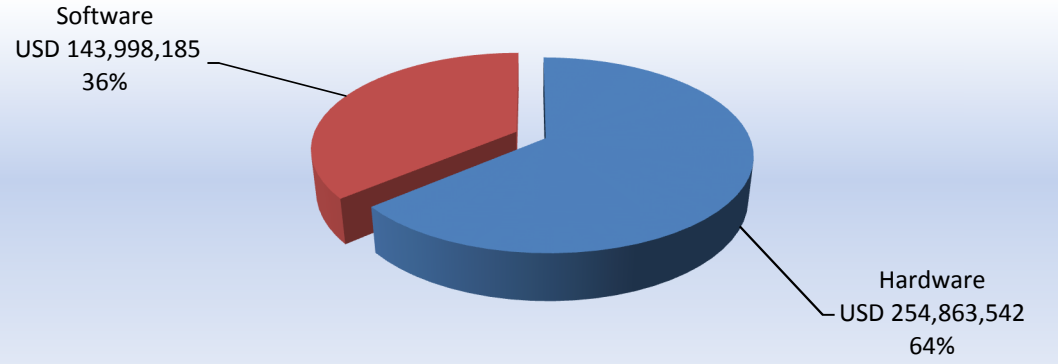
USD 254,863,542 is required for hardware activities as shown in Table 15.13 below.

Table 15-14: Requirement for Hygiene and Sanitation Hardware Activities in Rural and Peri-urban Areas by Region and Year (USD)

Region/City	Year		Total (USD)
	2014	2015	
Afar	3,043,156	3,016,609	6,059,766
Amhara	19,799,227	35,922,408	55,721,636
B. Gumuz	2,644,095	2,664,818	5,308,914
Dire Dawa	778,597	712,546	1,491,143
Gambella	2,045,235	2,052,366	4,097,601
Harari	568,111	481,111	1,049,223
Oromia	45,702,566	45,762,397	91,464,963
SNNP	18,922,502	18,935,835	37,858,337
Somali	9,978,049	9,964,746	19,942,795
Tigray	11,193,209	11,254,757	22,447,967
Addis Ababa rural	4,667,729	4,753,462	9,421,192
Total	**119,342,481**	**135,521,061**	**254,863,542**

The distribution of the costs of software and hardware activities for rural and peri-urban sanitation is shown in Figure 15.2. Software activities account for 36% of the financial requirement.

Figure 15-2: Rural and Peri-urban Sanitation - Distribution of Software and Hardware Activities



15.10 Urban Sanitation

15.10.1 Urban Sanitation Physical Plan

Urban sanitation activities in Phase I will consist of promotion of on-site sanitation facilities by HEWs, construction of public toilets and provision of desludging equipment and drying beds. In Addis Ababa loan financing has been obtained for the extension of the sewerage network starting in Phase I.

The public toilet requirement by town category is shown below.

Table 15-15: Public Toilets and Service Level by Town Category

No.	Population	Public Toilets	Ratio (unit/population)
1	15,000 - 20,000	1	1/10,000
2	20,000 - 30,000	1	1/15,000
3	30,000 - 50,000	2	1/15,000
4	50,000 - 100,000	3	1/20,000
5	100,000 - 200,000	4	1/20,000
6	200,000 - 500,000	8	1/20,000
7	500,000 - 1,000,000	N/A	N/A
8	>1,000,000	43	1/50,000

The requirement for desludging equipment in towns is shown below.

Table 15-16: Desludging Equipment1 by Region and Year

No.	Region/City[2]	Requirement/ Year	
		2015	2020
1	Addis Ababa	42	53
2	Oromia	15	19
3	Amhara	11	14

No.	Region/City[2]	Requirement/ Year	
4	SNNPR	7	8
5	Tigray	6	8
6	Dire Dawa	3	4
7	Harari	2	2
8	Gambella	1	1
9	Somali	2	2
	Total	**88**	**111**

[1]5m^3 vacuum truck (3 trips/day)
[2]No desludging equipment is recommended for Afar and B. Gumuz regions for phase 1 due to economy of scale. 3m^3 tractor mounted vacuum trucks are proposed for phase II.

Sludge drying bed requirements for towns by population category is shown below.

Table 15-17: Sludge Drying Bed Dimensions by Town Population and Year (ha)

No.	Population	Sludge drying bed area (ha) by Year	
		2015	2020
1	<1000	0.003	0.004
2	1,000 - 5,000	0.01	0.02
3	5,000 - 15,000	0.04	0.05
4	15,000 - 20,000	0.08	0.10
5	20,000 - 30,000	0.11	0.14
6	30,000 - 50,000	0.18	0.22
7	50,000 - 100,000	0.33	0.40
8	100,000 - 200,000	0.66	0.83
9	200,000 - 500,000	1.18	1.48
10	500,000 - 1,000,000	N/A	N/A
11	>1,000,000	15.61	19.81

15.10.2 Financial Requirement for Urban Sanitation

A total of USD 95,683,849 is required for desludging and public toilet in towns. More than 45% of this requirement is for Addis Ababa alone. The cost of desludging services, public toilets and sewerage are included in the urban sanitation financial requirement for Addis Ababa.

Table 15-18: Financial Requirement for Urban Sanitation by Region and Year (USD)

No.	Region/City	Year		Total (USD)
		2014	2015	
1	Afar	1,044,493	1,045,010	2,089,502
2	Gambella	342,828	343,718	686,545
3	Harari	215,224	216,676	431,900
4	Addis Ababa	21,369,995	21,931,794	43,301,789
5	Dire Dawa	400,237	402,824	803,060
6	B. Gumuz	510,512	510,794	1,021,306
7	Somali	2,165,090	2,168,026	4,333,117
8	Amhara	5,333,891	5,345,480	10,679,371
9	Oromia	9,575,011	9,592,689	19,167,701
10	SNNPR	4,556,319	4,564,179	9,120,497
11	Tigray	2,021,518	2,027,542	4,049,060

No.	Region/City	Year		Total (USD)
	Total	**47,535,118**	**48,148,730**	**95,683,849**

15.11 Program Financial Requirement

The total financial requirement for the Program is shown below.

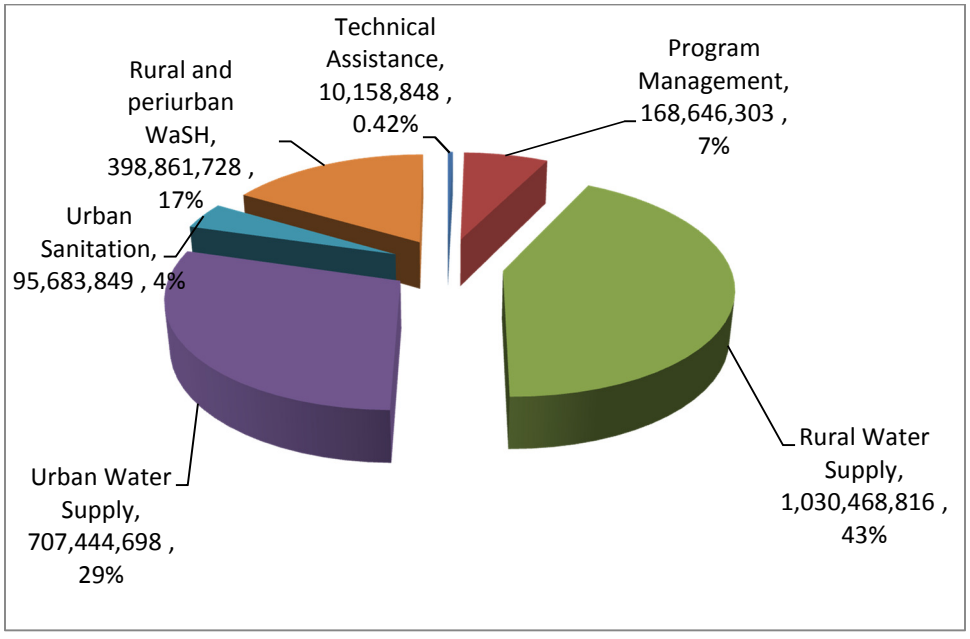
Table 15-19: Financial Requirement for Program Implementation by Main Component (USD)[1]

No.	Component	Total (USD)
1	Rural water supply	1,130,655,816
2	Rural sanitation	398,861,728
3	Urban water supply	786,062,849
4	Urban sanitation	95,683,849
	Total	2,411,264,241

[1]Including Program management, capacity building and other activities are included.

The distribution of the total financial requirement for the Program is shown below.

Figure 15-3: Financial Requirement by Main Component (USD)



15.12 Sectoral Financial Requirement[51]

The overall financial requirement for achieving the GTP Targets is USD 2,411,264,241. The breakdown of the financial requirement by sector is shown in figure 15.6 below. Requirements for technical assistance communication, pastoralist WASH and M&E are included.

[51] The water sector includes MoWE and BoWEs. The education sector includes MoE, BoEs, schools, TVETCs and HSCs. The health sector includes MoH, BoHs and health centers/posts. AAWSA is the Addis Ababa Water Supply and Sewerage Authority.

Figure 15-4: Financial Requirement by Sector and Organization (USD)

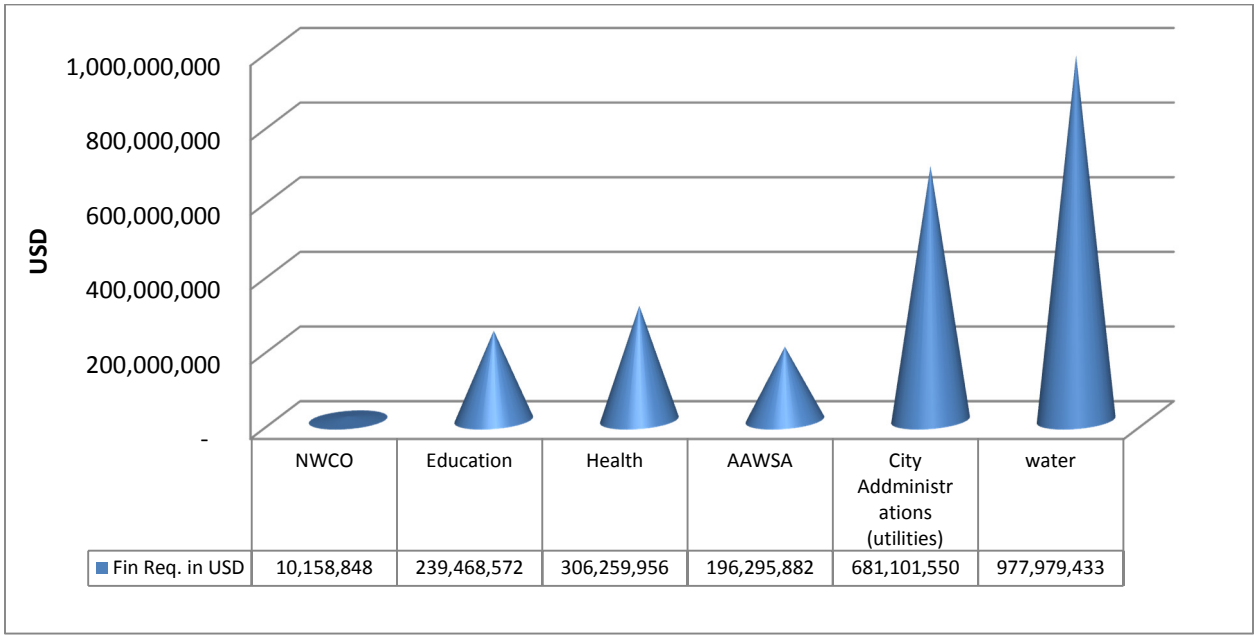


Table 15-20: Financial Requirement by Sector/Organization (USD)

Sector/Organization	Budget(USD)	%
NWCO	10,158,848	0.4%
Education	239,468,572	10%
Health	306,259,956	13%
AAWSA	196,295,882	8%
City Administrations (utilities)	681,101,550	28%
water	977,979,433	41%
Total	2,411,264,241	100%

15.13 Human Resources

According to the recent capacity building evaluation report[52], the number of contractors, consultants and drilling companies is too low to achieve the GTP targets by 2015[53]. More than 50,220 skilled technicians , professionals, groups and firms are required to achieve the GTP targets allowing for attrition and turnover and assuming that about 60% of the required cadre of human resources are currently available, over 20,000 additional skilled personnel of all types will be required to effectively implement the Program. It will therefore be necessary to identify and implement measures to attract as many contractors, drilling companies, technicians, professionals and others as possible to the WASH sector.

[52] Evaluation of WASH Capacity Building Interventions in Ethiopia, Final Report, June 2013.

[53] According to the Capacity Building Evaluation Final Report (June 2013), 437 contractors, 42 drilling companies and 22 consulting companies are licensed to work in the water sector.

Lessons can be drawn from the road and construction sector that have been successful in attracting large numbers of contractors and skilled technicians.

It is assumed that HEWs are available in sufficient numbers during Phase I. Strengthening planning and supervision by increasing the number of health staff at regional and federal levels will be required. Junior Environmental Sanitation officers at health centers can be replicated to support HEWs.
A breakdown of skilled persons required by category and region is shown below:

Table 15-21: Skilled Persons Required by Type and Region

I. No	Region	Estimated Number Of Skilled persons /Professionals											
		Artisans	Water Technicians	Electromechanical technicians	Aereal Mechanics/Hand Pump technician	Chief Drillers	Assistant Drillers	Water supply Engineers	Hydrogeologists	Electrical-mechanical engineer and related	Chemist, biologist lab technician	Socioeconomists	Accountants
1	Tigray	192	192	139	192	55	166	125	45	56	45	56	75
2	Gambela	69	69	31	69	12	37	39	14	18	14	18	23
3	Benshangul Gumuz	143	143	57	143	23	68	82	30	37	30	37	49
4	Diredawa	3	3	5	3	2	6	2	1	1	1	1	1
5	Hareri	4	4	2	4	1	2	2	1	1	1	1	1
6	Somali	164	164	125	164	5	15	147	53	66	53	66	88
7	Amhara	2,909	2,201	397	2,909	159	477	1,248	449	562	591	739	985
8	Afar	141	141	43	141	17	52	83	30	37	30	37	50
9	SNNPR	1,645	1,523	470	1,645	184	552	908	327	409	351	439	586
10	Oromiya	4,134	3,262	621	4,134	248	745	1,884	678	848	853	1,066	1,421
11	National												
	Total	9,406	7,702	1,890	9,406	707	2,120	4,520	1,627	2,034	1,968	2,460	3,280

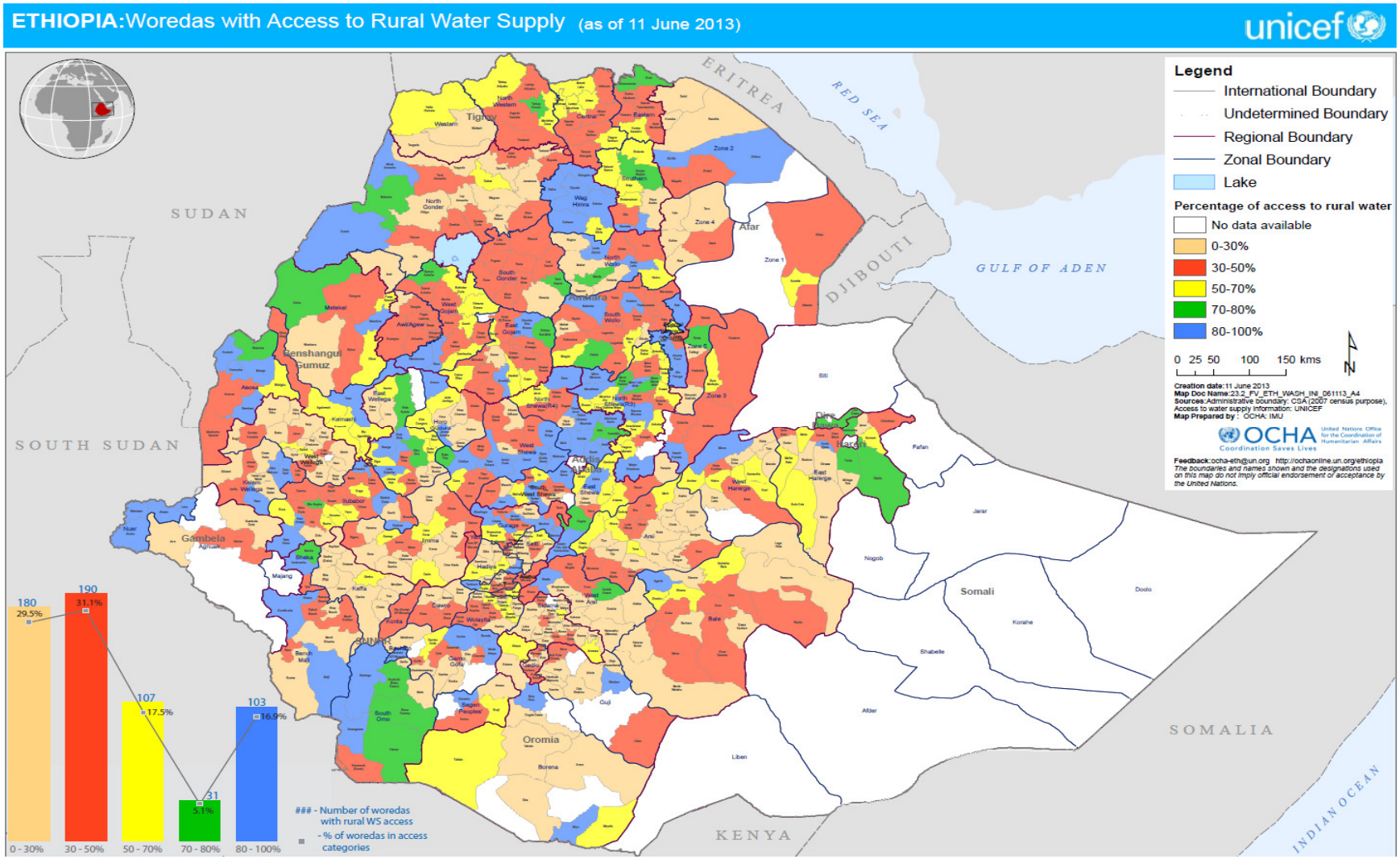
Table 15.20 (continued): Estimated skilled persons required by type and region

I.No	Region	Estimated Number Of Groups/Firms & Specialists										
		Community Facilitator Teams	Woreda Support Groups	Contractors (Grade 1-6)	Consultants (Grade 1-6)	WASH Coordinator	Water supply Engineers	Procurement Experts	Other National Consultants	Supply Chain Expert	M&E experts	Total
1	Tigray	32	13	72	8	1	2	2	2	1	1	1,471
2	Gambela	8	0	19	2	1	2	2	2	1	1	452
3	Benshangul Gumuz	19	2	48	5	1	2	2	2	1	1	925
4	Diredawa	1	0	1	1	1	2	2	2	1	1	42
5	Hareri	1	1	1	1	1	2	2	2	1	1	36
6	Somali	13	7	85	9	1	2	2	2	1	1	1,234
7	Amhara	123	18	418	46	1	3	3	3	1	2	14,246
8	Afar	37	49	48	5	1	2	2	2	1	1	951
9	SNNPR	249	103	463	52	1	3	3	3	1	2	9,920

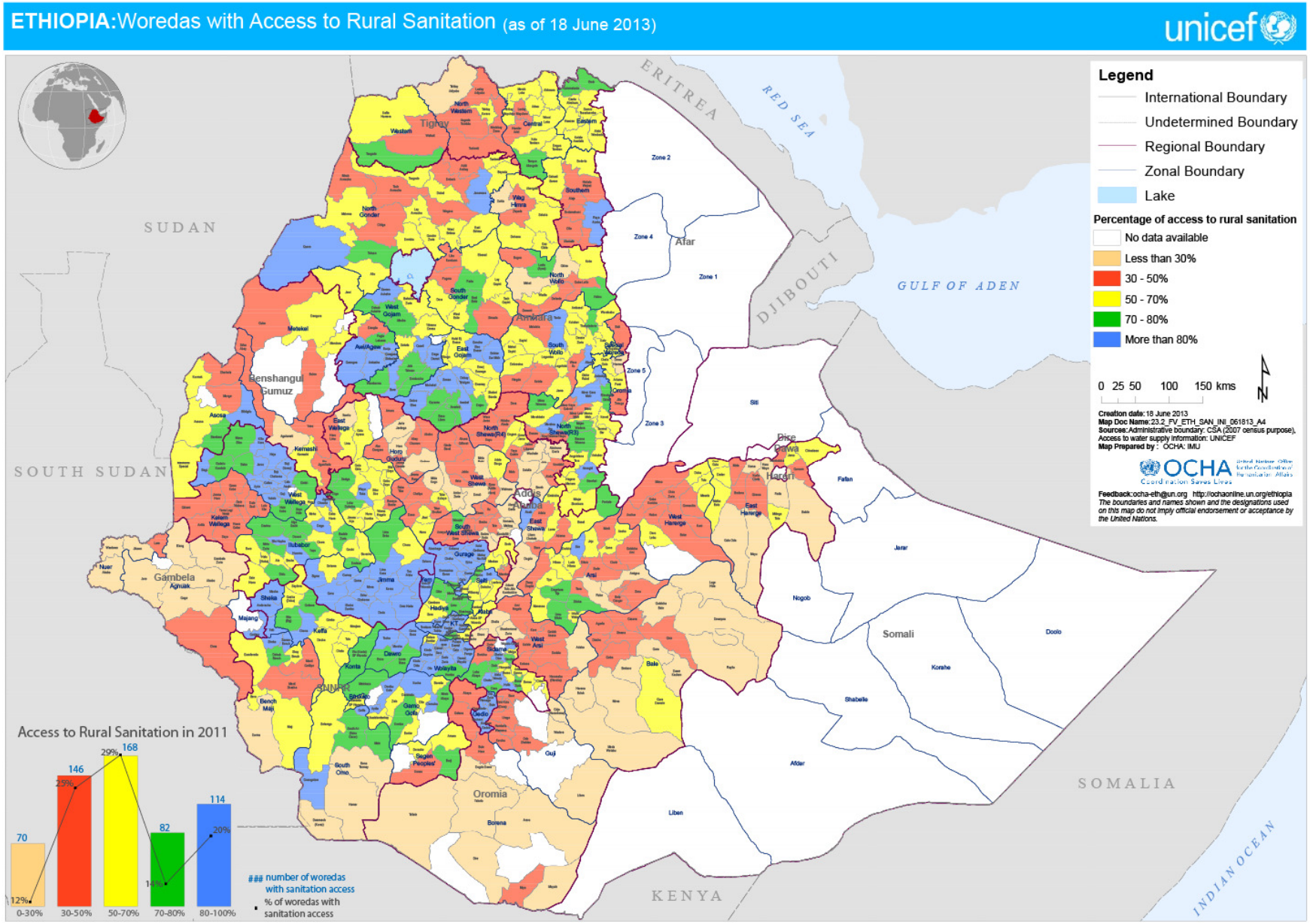
I.No	Region	Estimated Number Of Groups/Firms & Specialists										
		Community Facilitator Teams	Woreda Support Groups	Contractors (Grade 1-6)	Consultants (Grade 1-6)	WASH Coordinator	Water supply Engineers	Procurement Experts	Other National Consultants	Supply Chain Expert	M&E experts	Total
10	Oromiya	254	51	642	71	1	3	3	3	1	2	20,924
11	National					1	4	4	4	2	3	18
	Total	738	246	1,797	200	11	27	27	27	12	16	50,220

[1] Community Facilitators and Woreda Support Groups can be NGOs, firms or licensed groups.

Exhibit 1: Maps of Rural Water Supply and Sanitation Access by Woreda from NWI Data [1]



[1] Maps in Exhibit 1 are courtesy of OCHA in collaboration with the WASH Section, UNICEF, Addis Ababa.


ETHIOPIA:Woredas with Access to Rural Sanitation (as of 18 June 2013)
unicef
Legend
International Boundary
Undetermined Boundary
Regional Boundary
Zonal Boundary
Lake
Percentage of access to rural sanitation
No data available
Less than 30%
30 - 50%
50 - 70%
70 - 80%
More than 80%
0 25 50 100 150 kms
Creation date: 18 June 2013
Map Doc Name: 23.2_FV_ETH_SAN_INI_061813_A4
Sources: Administrative boundary: CSA (2007 census purpose), Access to water supply information: UNICEF
Map Prepared by : OCHA: IMU
OCHA
Feedback: ocha-eth@un.org http://ochaonline.un.org/ethiopia
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
SUDAN
SOUTH SUDAN
ERITREA
RED SEA
DJIBOUTI
GULF OF ADEN
SOMALIA
KENYA
INDIAN OCEAN
Tigray
Afar
Amhara
Oromia
Somali
Benshangul Gumuz
Gambela
Harari
Dire Dawa
Access to Rural Sanitation in 2011
70
146
168
82
114
29%
25%
20%
12%
0-30%
30-50%
50-70%
70-80%
80-100%
number of woredas with sanitation access
% of woredas with sanitation access

Annexes

Annex 1: Role of Signatory Ministries in Program Implementation [54]

Undertakings by WASH Sector Ministries

- Assign appropriate official to the National WASH Technical Team;
- Establish PMU and designate WASH focal person to liaise between PMU and NWCO;
- Implement decisions made by the Steering Committee and technical team in their respective ministries and provide feedback on the status;
- Evaluate WASH performance status of respective ministry in their regular sector performance evaluation and provide feedback to WASH Technical Team and Steering Committee;
- Closely monitor, evaluate and support regions in WASH planning, implementation and reporting;
- Incorporate WASH in the regular individuals performance evaluation system;
- Prepare Plan of Action, quarterly, semi-annual and annual physical and financial reports at federal level and submit to the NWCO;
- Advise and assist respective bureaus in establishing WASH structures at regional and woreda levels.

Responsibilities of Sector Ministries in Planning and Implementing the Program

Each ministry shall establish its WASH Program Management Unit (WPMU). The size, structure and composition of the WPMUs will vary from ministry to ministry depending on the magnitude and nature of the particular ministry's input to the WASH Program. WPMUs will be housed in their respective ministries.

Maintaining the duties and responsibilities of Ministries vested on them by the Parliament, major areas of WASH-related services designated for sector ministries are as follows:

Ministry of Water and Energy

- MoWE shall provide office with adequate space, office furniture, office supplies, and other facilities to National WASH Coordination Office. In the future, this arrangement may be changed based on the decision of the SC;
- Provision of safe and adequate drinking water for human consumption and domestic use from source to distribution for communities, schools and other institutions;
- Undertake water quality testing
- Play a leading role in establishing, strengthening and regulating supply chain system that enables the sustained use of WASH facilities;
- Through its structure give training on WASH to WASHCOs, teachers and other staff and PTA;
- Ensure that Regional PMUs, woreda sector offices and Town Water Boards have the directions, information, systems, skills and resources necessary to carry out their WASH mandate and achieve expected results;

[54] The content of this annex is drawn from the WIF, March 2013.

- Ensure that WASH-related inputs and activities in the sector are effectively implemented and integrated into the WASH program at all levels;
- Contribute to preparation of consolidated National WASH plans and budgets;
- Ensure that Program activities, strategies and results are monitored, evaluated and reported within the WASH framework and systems;
- Assist regions to identify their gaps and management deficits and provide them with technical assistance or capacity development they require;
- Build linkages with and among regions - share information, progress reports and best practices;
- Demonstrate and foster integration and harmonization of the WASH Program.

Duties of the Ministry of Health

- Conduct training on water quality monitoring and surveillance, hygiene promotion, community led approaches and other need based WASH issues;
- Facilitate provision of sanitation facilities at health institutions;
- Introduce appropriate sanitation technologies for on-site use;
- Monitor water quality for consumption before and after the scheme is commissioned (regional and woreda) office;
- Support RHBs and make follow-up on Program implementation and fund utilization;
- Ensure that Regional PMUs, woreda sector offices and Town Water Boards have the directions, information, systems, skills and resources necessary to carry out their WASH mandate and achieve expected results;
- Ensure that WASH-related inputs and activities in the sector are effectively implemented and integrated into the WASH program at all levels;
- Contribute to preparation of consolidated national WASH plans and budgets;
- Ensure that Program activities, strategies and results are monitored, evaluated and reported within the WASH framework and systems;
- Assist regions identify their program gaps and management deficits and provides them with the technical assistance or the capacity development they require;
- Build linkages with and among the regions - sharing information, progress reports and best practices;
- Demonstrate and foster integration and harmonization of the WASH Program.

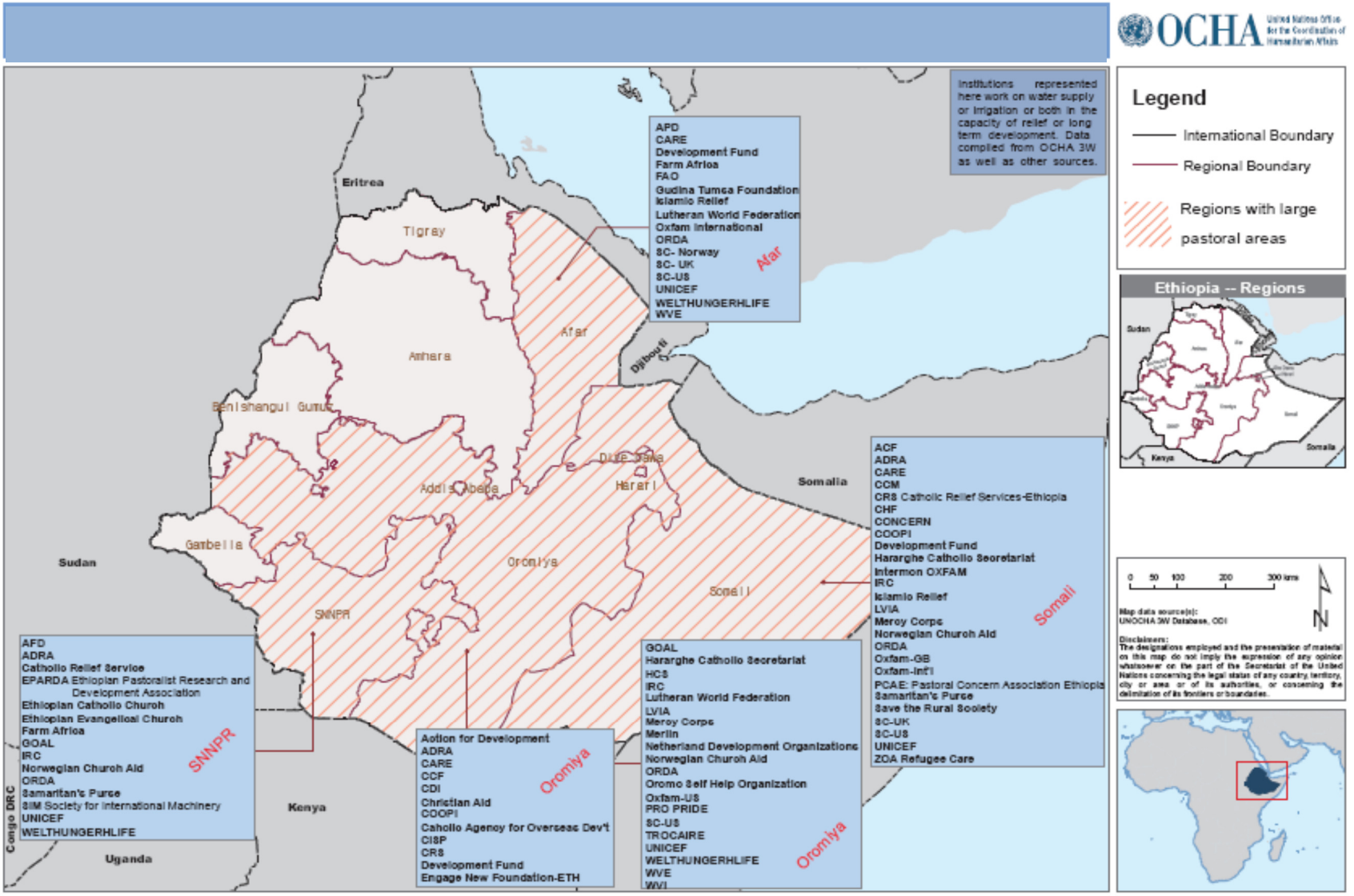
Duties of the Ministry of Education

- Ensure that water supply and sanitation schemes and facilities are provided in schools;
- Support establishment of WASH clubs in schools (regional Education Bureau);
- Incorporate WASH-related subjects in school curriculum and activities;
- Through its appropriate structure facilitate the provision of WASH training to teachers and PTA;
- Submit plans and quarterly, biannual and annual fund utilization and performance reports to the NWCO on time; In collaboration with the health sector mobilize school communities in popularizing hygiene and sanitation in their respective communities .(Role of Woreda Education Office);

Duties of the Ministry of Finance and Economic Development

- Oversee implementation of the national GTP;
- Communicate with WASH sector ministries on WaSH funds and provide periodical update on WASH fund disbursement and settlement;
- Ensure that funds transferred to regions are based on plans and budgets approved by the NWSC;
- Ensure timely disbursement and settlement of funds for Program activities;
- Ensure financial report from woredas and regions is disaggregated for water supply and hygiene and sanitation;
- Contribute to preparation of consolidated National WASH plans and budgets;
- Ensure that Program activities, strategies and results are monitored, evaluated and reported within the WASH framework and systems;
- Assist regions to identify their financial management gaps and provides them with the technical assistance or the capacity development they require;
- Build linkages with and among regions - sharing information, progress reports and best practices;
- Demonstrate and foster integration and harmonization of the WASH Program.

Annex 2: Organizations Working with Water Development in Pastoral Areas



Annex 3: Risks and Mitigation Measures

A recent World Bank/ODI report[55] concluded that in the water sector, "Broadly speaking, Ethiopia has made significant strides in policy development, financing, governance, and management, resulting in generally low levels of corruption and perceptions of corruption along the value chain". The potential and risks of corruption in the WASH sector relate to the large amount of money that will be necessary to achieve the GTP targets, and could occur at different areas of the value chain. The risks identified include:

Policy capture

- monopoly position of drilling companies (limited competition and regional drilling enterprises in some areas of some types of work)
- licensing or registration practice and procedure for drilling companies (bias, selection)

Sector-level planning, budgeting and transfers

- risk of distortions in use of monitoring information (e.g. coverage) for political or funding ends
- risk in shift to local-level procurement under decentralization (e.g. management and oversight of funds, local procurement)

Tendering and procurement

- risks in tendering process, prequalification, collusion in bids, objectivity and transparency of the tender assessment process, potential for corruption at contract award

Construction and payment

- risk of corruption in construction such as failure to build to specification, fraudulent claims for variations, bribery by contractor of site engineer to overlook construction or performance defects, extortion of payments by government officials from contractors (e.g. for approving invoices)

The report made a number of recommendations to address findings on vulnerable areas and concerns. The assessment recognized that these related more to governance and efficiency rather than corruption per se. These recommendations will be incorporated into design and implementation as outlined below – including the M&E framework.

Recommendations:

1. Clarify the position of State Owned Enterprises and restrict their operations in high-risk situations.
2. Lower entry barriers for private contractors.
3. Commission an independent study of the efficiency and effectiveness of state-owned drilling companies
4. Retain borehole planning and procurement responsibilities at regional or zonal levels.
5. Improve the quality and accessibility of monitoring data about rural water supply investment, infrastructure, and functionality
6. Strengthen record-keeping procedures in regional and zonal bureaus, providing clear guidelines for the compilation and use of well completion reports and contract information
7. Increase transparency of the tendering and procurement process through a public disclosure program.
8. Adopt the survey approach [i.e. post-construction checks of drilled depth] to monitor and improve, construction standards in borehole drilling and to deter future corruption.
9. Strengthen on-site supervision of drilling contractors.
10. Strengthen community oversight and monitoring of headwork construction in parallel with government supervision of drilling.

[55] Diagnosing Corruption in Ethiopia: Perceptions, Realities, and the Way Forward for Key Sectors, World Bank/ODI, 2013.

Annex 4: Climate Change and Water Resources in Ethiopia [56]

Water supplies are vulnerable to climate variability with some existing sources drying out during prolonged dry periods, while improved water supplies offer a major opportunity to increase resilience to climate variability. This resilience is dependent on understanding of the characteristics and sustainability of the water resource.

Climatic variability is already a challenge to Ethiopia's water security, with knock on effects in water-related sectors such as energy and health in addition to impacts on poverty and national growth. Climate variability already leads to loss of livelihoods, food insecurity, social conflict in resource scarce areas, and humanitarian crisis e.g. high-cost emergency supply by water tankers has been required on an annual basis in vulnerable semi-arid areas such as Somali Region in recent years, and requirements for food aid linked to failure in seasonal rains remain common.

Although relatively well endowed overall with water resources, existing spatial and temporal variability combined with a high population and a paucity of water management systems presents a challenge to the water security for each individual. GTP targets, which for example extend the area under irrigation six-fold, involve a massive increase in water demand[1].

Warming has occurred across much of Ethiopia, particularly since the 1970s and it is expected to get significantly hotter over the next fifty years. How much hotter will depend on the outcome of efforts to control greenhouse gas emissions. However, as things stand, Ethiopia can expect to be at least 3ºC warmer by 2080[2].

Some climate models project more rain, others less, which leads to high uncertainty about the nature of future rainfall related risks, but likelihood of increased unpredictability. Communities and farmers struggling to cope with Ethiopia's already unpredictable climate will have to deal with increasingly unpredictable rainfall, damaging crops and reducing yields. Prolonged droughts will stretch water supplies for both communities and for electricity generation from hydropower. Flash floods will wash away roads and homes. There will also be impacts unrelated to rainfall such as the spread of vector-borne diseases, in particular malaria, to the highlands. If these impacts are not mitigated, the changing climate will knock percentage points off Ethiopia's GDP and push millions further into poverty.

Although climate change is unlikely to be the main driver of escalating water insecurity in Ethiopia compared to the challenges of meeting increasing demand, it may clearly act as a stressor aggravating existing vulnerabilities. Notwithstanding this threat, climate change also represents an opportunity for Ethiopia. Climate change offers a lens through which Ethiopia can re-visit some of the existing most intractable problems. The climate change agenda can help focus on tackling perennial problems such as water resources management and environmental degradation.

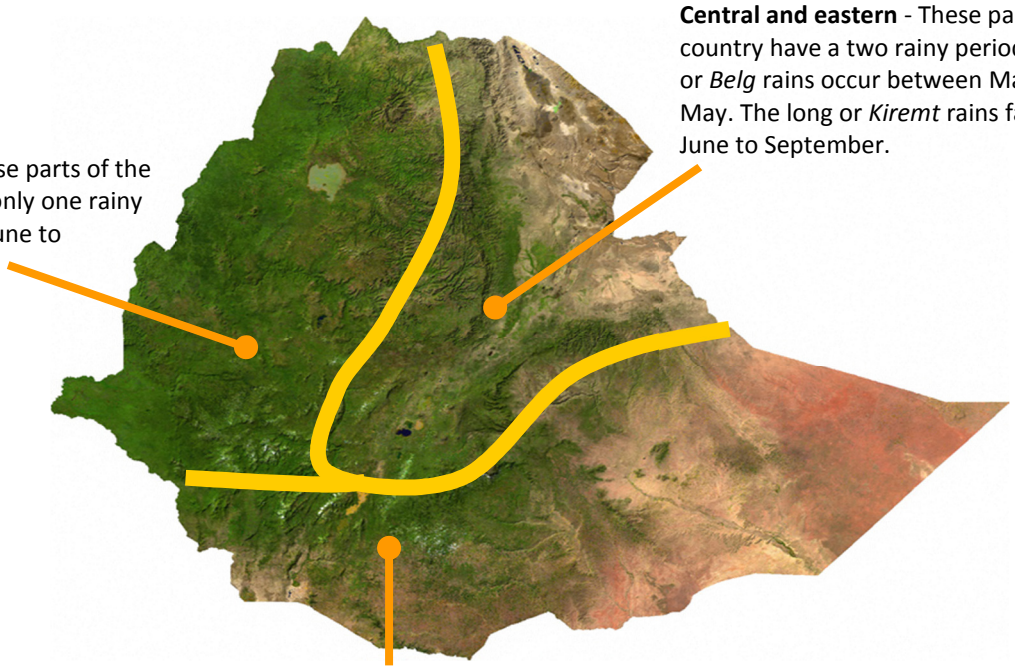
Utilization of groundwater offers some potential opportunity to buffer climate variability but can also be vulnerability to unsustainable abstraction. The Program will help strengthen the links between water resource management and WASH.

In Ethiopia's pastoral regions, water scarcity is a perennial challenge and water development has the potential to bring both positive and negative change[3]. Settlement and over-grazing around water points has implications on existing livelihoods and the potential to trigger conflict in the context ongoing tensions between neighboring clans. The environmental and social parts of the appraisal section below, assesses

[56] Used with the kind permission of the Department of International Development (DFID), Addis Ababa.

issues of conflict sensitivity, risk management and the potential for addressing grievances through improving equitable access to water.

Figure 1: Climatic Conditions in Ethiopia



Central and eastern - These parts of the country have a two rainy periods; the short or *Belg* rains occur between March and May. The long or *Kiremt* rains fall between June to September.

Western - These parts of the country have only one rainy period, from June to September.

South and southeastern - These parts of country have two rainy periods; the long rains occur February and May while the short rains fall between October and November.

Climate screening guidelines for rural water supplies in Ethiopia[4] are currently being prepared with assistance from COWASH. These guidelines are expected to be published soon and will be a useful input for the Program.

[1] Strategic Climate Institutions Programme: Scoping study on engagement in Ethiopia's Water Sector DFID Ethiopia (April 2012)
[2] UNDP Climate Change Profile: Ethiopia (McSweeney et al.)
[3] RiPPLE, Synthesis of Knowledge and Experience on the Provision of Water Supplies to Pastoral Communities in Ethiopia, 2010.
[4] Climate Risk Screening Guidelines for Rural Water Supply; Roger Calow, Eva Ludi, Andrew McKenzie, Seifu Kebede, forthcoming 2013.

Annex 5: Multi-village Water Supply Schemes [57]

In 2010, the World Bank supported a study[58] on management models for multi-village water supply schemes (MVS). The study included seven schemes in Oromia and SNNPR, each serving a population of around 20,000 to 100,000. All schemes had been in operation for around 10 years.

Main findings include the following:

- All multi village schemes (MVSs) were in areas with severe water shortage. This had led to committed community involvement in planning, design and management of the schemes.
- All MVSs had put in place appropriate management structures with user representation in general assemblies and an executive board with effective oversight of operations.
- All MVSs had been able to build adequate operator capacities and were operating and maintaining their schemes with limited outside support.
- Users of all MVS were satisfied with the level of service provided by the schemes and, except for one scheme, all felt that the price of water was reasonable and affordable.

The following are reasons given as to why the seven MVS were considered sustainable:

- Communities had participated from the planning to the O&M phase.
- Communities had received the required support from NGOs and the government specifically during the early years of the projects, including training in management and O&M.
- Women's participation was relatively high, varying from 50% to 100%.
- MVSs were relatively close to supply chain outlets.
- MVSs used renewable energy partially or fully, depending on the location of sources.
- The health extension programme had not only increased latrine coverage to more than 80%, but also increased the demand for safe and potable water.

The seven schemes were, however, still facing challenges, the main ones being; i) how to secure the long-term sustainability of the services (replacement and expansion), ii) dependence on the local government and donors for technical assistance in connection with O&M, as private sector service provision was limited; iii) some MVS do not have legal status.

The study report mentions that all communities, except one, had received support from NGOs and the government, including training in management and O&M. It does not specify how much initial and follow-up training had been provided to each of the seven MVS. Capacity building interventions appear, however, to have been substantial and to have continued over a considerable period of time. Furthermore, it appears that NGO personnel have directly promoted the involvement of local communities in all project phases and have provided the training directly and not used a cascaded training approach like the WSSP did.

It is assumed that substantially more human and financial resources have been used in ensuring local ownership and for training of local communities than large programs like the WSSP are able to use. The proportionate allocation of funding for program management, including capacity building, supports this assumption. WSSP and multi village schemes have used 5-10% and 24% respectively of their total funding for program management and capacity building. The figures should, however, be used with much caution.

[57] This annex is drawn from, Evaluation of Wash Capacity Building Interventions in Ethiopia: Final Report, June 2013.

[58] Defere, E. and Abdi, G.: Documentation of Proven Management Models for Multi Village Water Schemes, December 2010

Annex 6: Cost-effective Boreholes in Ethiopia

The following are the main findings from a study of drilling operations in Ethiopia[59].

Costs

1. Comparing drilling costs, even within a single country, presents many difficulties. First, there is often confusion between the (tendered) price and actual cost. Second, the basis for costing and pricing used by Government, and individual State Enterprises and private contractors varies, as they use different amortization periods, unit costs, overhead rates and profits. And third, it is not always clear that one is comparing like with like (in terms of borehole function, design yield, diameter, depth, or location).

2. Average drilling costs may have fallen in some parts of Ethiopia due to increasing competition. However, fuel and steel price rises and increasing wage rates may now be tending to drive prices up.

Contextual issues

1. In Ethiopia, a number of new large water and sanitation programs will create significantly increased demand for boreholes in the coming years.

2. Training opportunities in groundwater and drilling in Ethiopia are very limited in quantity and duration, highly rated in terms of quality, but inaccessible to the private sector. There appears to be a significant gap between supply and demand of trained and experienced groundwater personnel.

Technical issues

1. The number of non-functional boreholes is high (estimated as 29% for handpumped boreholes and 33% for motorized boreholes). This has significant cost implications.

2. Knowledge of Ethiopia's hydrogeology and expertise in site survey techniques are insufficient to estimate required drilling depths accurately. Consequently, required depth is often overestimated in tender documents, resulting in mobilization of heavier equipment than necessary, and correspondingly high drilling costs.

3. There is a view that boreholes could often be completed at shallower depths than is usual at present. The evidence for this in Ethiopia is not easy to establish however, and this study has not been able to confirm or deny that view.

4. Geological formations are often classed as "soft", "medium" or "hard" for purposes of costing drilling. However disagreement over these terms, and the inability of hydrogeologists to accurately predict their relative proportions in a particular case, often cause contractual disputes.

5. There is a general shortage of instruments for carrying out geological and geophysical site investigations for boreholes in Ethiopia.

6. Much greater in-depth understanding of Ethiopia's hydrogeology is desirable. However, this is unlikely to increase drilling success rates significantly as these are already quite high (frequently estimated as 75-85%). Greater knowledge however could make required drilling depths more predictable, and have corresponding cost-reduction implications.

7. From a technical point of view, borehole designs could in many cases be modified to follow some of the principles outlined above under "international experience". However, there would be obstacles to

[59] From: Drilling for Water in Ethiopia: A Country Case-Study, Rural Water Supply Network/WSP, June 2006.

reducing cased diameter to 4-inch, including the fact that many contractors use 4½ inch drill pipe.

8. In collapsing formations, simultaneous casing techniques could reduce drilling problems. They do not appear to be used at present in Ethiopia.

Demand-side issues

1. Procurement of borehole construction by Regional Bureaus tends to be reactive or "unplanned", in response to availability of funds. It may be by open tender, limited tender, administrative decision or through pre-selected suppliers. In reality, much of the drilling activity is awarded, without competition, to the State Enterprises.

2. The tendering process, from initial planning to commencement of works can be lengthy – sometimes as much as 6 months.

3. Clustering borehole contracts is known to reduce costs, but it is only occasionally practiced.

4. Construction supervision is often carried out by young (hydro)geologists with limited experience. Such individuals are not able to make timely decisions on site without reference to their superiors. This can result in excessive idle time, with consequent cost implications.

5. UNICEF has been operating under tripartite agreements with Regional Bureaus and State Enterprises in the last few years, in order to increase rig efficiencies and outputs. This modus operandi needs to be evaluated in detail.

Supply-side issues

6. Much of Ethiopia's stock of about 150 drilling rigs is old (two-thirds of rigs are older than 15 years) and in need of replacement. Most private contractors use second-hand equipment. Most rigs are rated as medium or heavy duty (i.e. capable of drilling to 200m depth or greater). Drilling rigs typically spend 45-90 days per year out of action, undergoing repairs.

7. Spare parts and consumables need to be imported. Importation through letter of credit is cumbersome and alternatives need to be identified.

8. State Enterprises are active and growing in number. They are widely acknowledged to be inefficient, slow, and uncompetitive. On the positive side however, they carry out much if not most of the drilling in settlement areas and in emergencies, where private contractors may not wish to compete.

9. Most private drilling contractors also undertake other non-drilling (e.g. construction) activities. Their number is increasing, and so competition, including from a handful of foreign (Chinese and Indian) firms is growing too. Setting up a drilling business can take up to one year. Finding finance and getting licensed are the most challenging aspects of the process.

10. Importation of spare parts and consumables (except for within one year of importation of the rig) attracts import tax (5-15%), VAT and withholding tax (2%). Almost all such materials have to be imported as they are not manufactured or stocked extensively in Ethiopia. Importation requires use of Ethiopian Shipping Lines, which can often delay rapid movement of materials.

11. NGOs with drilling operations have some advantages over the private sector and State Enterprises: they are tax-exempt in relation to importation of consumables and spare parts; they do not, by definition, have to make a profit; and they are more flexible in terms of operation. These issues are of importance to NGOs, but it is rare that NGOs are in competition with other service providers.

Costing, Pricing, and Modeling

A systematic procedure for costing of borehole construction needs to be translated into a user-friendly and publicly available tool for other country studies and comparative work, and this is the basis for one of this study's recommendations.

Costing needs to explicitly include all aspects of (i) mobilization and demobilization; (ii) drilling; (iii) casing; and (iv) development and test pumping. A tool such as this would allow very straightforward sensitivity analyses to be carried out for any drilling construction scenario including one or multiple boreholes.

Quoted (tendered) prices for drilling – which form the only publicly available data in most cases – differ from the contractor's costings by allowing for (i) inclusion of overheads and profit; (ii) addition of VAT; (iii) adjustment for perceived risk; and (iv) adjustment to reflect the contractor's strength of desire to win the contract. The two latter aspects account in part for the wide variation in tendered prices for the same contract.

It is important to recognize the influence of non-productive boreholes (ones which fail at the construction stage or some time later) on all-inclusive costs. High failure rates boost the unit cost of successful wells significantly. Costs of measures to improve success rates need to be compared to benefits achievable in cost-savings, in order to determine how worthwhile such investments are.

Factors affecting borehole costs are numerous, and the links between them are complex. In some cases these links are quantifiable, while in others only qualitative professional judgments can be made. For the first time in this sector a way in which decision support modeling could be used to (i) understand the sector better, and (ii) to prioritize interventions to improve performance and reduce cost. This sort of modeling has been widely used in other fields requiring diagnosis and intervention decisions.

Recommendations

The main recommendation of this study is the establishment of a multi-stakeholder task force (composed of representatives from Federal and Regional Governments, State Enterprises, Private Sector, Donors and International Agencies, and NGOs) to take the study findings forward. It is essential that such a task force is nationally owned and led, even if supported by external inputs. The study itself makes several broad recommendations, and it is anticipated that the detail of these would be worked on by the task force. In general the study recommendations fall under the following headings:

1. Hydrogeological data and investigations (focusing on groundwater investigations, completion reports, and access to equipment)
2. Procurement and contract management (focusing on Regional capacity-building, packaging and clustering of contracts, standard bidding procedures including prequalification, greater transparency and speed in tender evaluation, and strengthened supervisory capacity)
3. State Enterprises (focusing on improving costing procedures, improved self-monitoring, better management of resources and increased competitiveness)
4. Private sector (focusing on access to finance, increased tax exemption, incentives for local manufacturers and importers, ease of importation, easing licensing requirements, and better resource management)
5. Borehole designs and drilling technology (focusing on designs which are more fit for purpose, better prediction of drilling depth required, and access to advances in drilling technology)
6. Training (focusing on extending access to technical training to the private sector, and provision of

training in procurement and contract management)

7. Professional dialogue and participation (e.g. setting up a multi-stakeholder forum on groundwater development and improving drilling efficiency to address the following issues: training requirements, support to the private sector, groundwater investigations and data, licensing and regulation, borehole design, drilling technology, UNICEF and NGO experience, sustainability issues, role of state water enterprises in drilling.)
8. Further studies and development of groundwater modeling tools.

Annex 7: Sanitation Marketing Strategy [60]

Introduction

The Government of Ethiopia believes in the promotion of improved sanitation to ensure sustained change in sanitation and hygiene facilities to meet national and global commitments. To this effect the Sanitation and Hygiene Strategy, Sanitation Protocol, Strategic Sanitation Action Plan (SSAP) and CLTSH Implementation guideline have been developed to facilitate changes in the sanitation and hygiene situation in Ethiopia. These developments have stimulated development partners' involvement and the use of one approach by all, where communities are involved to analyze existing sanitation and hygiene problems and find collective solutions to the problems related to sanitation and hygiene. Though the progress has been impressive, CLTSH requires further strengthening and expansion. In particular, one of the challenges is to ensure that the "post-triggering" phase of CLTSH receives sufficient attention.

In addition, to end Open Defecation and break the chain of disease transmission in the community, the type of sanitation and hygiene technology should be appropriate, replicable, and robust enough to ensure long service life, affordable and provide privacy and should be user friendly and hygienic. In order to address the deficiencies of basic latrine and support communities to improve and upgrade the sanitation facilities, introducing the principles and mechanisms of Sanitation Marketing is critical. This requires the developing of appropriate Sanitation Marketing business models, the establishment or support of the private sector to take up sanitation as a business and involvement and commitment of local authorities to support the need for improved sanitation technologies.

The Ministry of Health found it necessary to take the present sanitation technology prevailing in the country to an improved level so that it will impact improvement in the control of diseases attributable to sanitation and hygiene. In order to facilitate changes in technology it was found to be important to develop a National Sanitation Marketing Guideline with its development partners and the private sector. The guideline is dynamic and will be improved to be more accommodating to include different business models. As a start the guideline will be used to design a viable business model or models and apply it in selected woredas supported by government or development partners an where more number of model families and ODF declared villages/Kebeles are available and support diffusing effect to the neighboring woredas and communities. The guideline also included methods of involving Micro and Small Enterprise Development Agencies (MSEDAs), Microfinance Institutions (MFIs) and TVETs in the woredas so that the enabling environment for the private sectors is identified and developed.

Scope

The guideline is built on three elements:

1. To address issues with regards to creating, strengthening and sustaining the enabling environment for private providers of sanitation through ensuring harmonization and alignment of stakeholders' efforts to meet the demand and supply aspects of the market.

2. To support demand generation initiatives among the target audiences for improved sanitation technology options through integrated BCC campaign, branding products, marketing and using a mix of communication methods including interpersonal communication, mass media and direct consumer contact.

3. To provide guidance on improving access for improved sanitation technology options for constructing new facilities or upgrading existing ones, availing proper hand washing facilities and safe water chains

[60] The text in this Annex is excerpted from, National Sanitation Marketing Guideline (draft), Ministry of Health, June 2013.

through building capacity of private sector and business development service providers along the supply chain.

In principle, the guideline provides directions to establish the appropriate enabling environment for developing, testing and commercialization of appropriate products to meet consumer demand and preference in proper human excreta disposal, proper hand washing facilities and safe water chain through purely market regulations.

Objectives

1. To give proper support in the establishment, coordination and promotion of sanitation marketing by the government and development partners.
2. To motivate private sectors to take up sanitation marketing as a profitable business.
3. To harmonize and put in place sanitation marketing implementation modalities using the marketing mix and other principles.
4. To formulate methods of capacity building related to sanitation marketing for small scale microenterprise and other private sectors to play an active role in the business.
5. To enable the communities and households to access simple and affordable improved sanitation technological options based on consumers' needs and preferences.

The following actions are suggested for stakeholders to create access for improved sanitation products and services:

- Conduct market research to understand household consumers and supply chains.
- Design appropriate and affordable improved sanitation products and services, based on consumers' needs, preferences, interest, tastes. Ensure these products are tested for their appropriateness and safety before commercialization.
- Design and test for feasibility, scalability and sustainability of business models and supply chains for sanitation products and service delivery.
- Branding and promotion to create awareness of sanitation and hygiene products and services.
- Promote sanitation as a potentially profitable sector for the private sector to improve their interest and enhance their engagement and encourage development of new business models.

Provide technical and financial support to improved sanitation product and service providers, through trainings, access to financial products and other capacity building activities.

Steps

Three pillars of sanitation marketing and its actual implementation can be summarized in a 7-step framework:

Step 1 - Assessment and Planning - Assess market and partnership conditions, initial planning

Step 2 - Market Research - Understand household consumer behavior and local market providers, retailers and supply chains

Step 3 - Product Design - Design affordable, desirable sanitation product/service options

Step 4 - Test Supply Side Strategy - Design and test business models and supply chains for product delivery

Step 5 - Test Demand Creation Strategy - Design and test promotional and marketing materials/tools/ activities

Step 6 - Sanitation Marketing Program Implementation - Testing and roll out of Sanitation Marketing supply expansion and demand creation activities

Step 7 - Monitoring - Monitor for results and equity

Facilitators Guide

It is also imperative to have training facilitators such as capacity building firm or trained facilitators at different level where the action will start. Therefore, the facilitators guide, is a step-by-step procedural manual that describes each session and provides all relevant information such as introduction, purpose, objectives, activities, discussions, debriefing exercises, visual aids, preparation time, session duration, questions, review, useful reading or references etc.

The guide will be prepared to build the capacities of frontline health workers, entrepreneurs, private sector and individual trainees in such a way that it will be introduced to sanitation marketing in a systematic and logical order. The guide is also prepared with the targets in mind and will follow inferential discussion techniques which are a methodology that employs assessment of the prior experiences of the trainees, and build up with focused knowledge and skills that enable the trainee to translate into actions the ultimate objectives of the training.

Participant Guide/Manual/Handbook

A participant guide, manual or handbook should also be prepared. This is a collection of tools, handouts, worksheet and templates that participants will use during the training. A participant hand book which will also include steps, procedures, lists of materials, specifications, formats and other technical and administrative materials. The guide or manual will make private sectors to be self-sufficient and lead his business with efficiency. Such guidelines or manuals can be considered as reference materials for the private sector.

Annex 8: Program Results Frameworks

Scenario I-using customized planning model

Parameter	Outcome	Indicator
Outcome	Increase in percentage of rural and urban population with access to improved water supply, sanitation and hygiene practices	% of population with access to improved water supplies (rural and pastoralist (15 lpcd in 1.5 km), urban (20 lpcd in 500m) and institutional)
		% of population with access to basic latrine facilities by rural and pastoralist, urban and institutional
		% of population using improved sanitation facilities by rural and pastoralist, urban, institutional
		% of population practicing handwashing by rural and pastoralist, urban and institutional
		% of population practicing open defecation
Outputs 1) Improved water supply increased in rural, pastoralist and urban areas, and in institutions	**Rural and Pastoralist WASH**	
	55,865 conventional and 42,529 water supply facilities constructed	Number of water supply schemes constructed, as % of target
	20,010 water schemes rehabilitated	Number of water supply systems rehabilitated, as % of target
	Improved functionality of water supplies	% increase in functionality of rural water supplies
	Urban and peri-urban WASH	
	777 feasibility study and design reports prepared	Number of feasibility study and design reports prepared/approved
	777 water supply systems rehabilitated/expanded/ constructed	Number of urban water supply systems constructed/extended/rehabilitated
	Institutional WASH	
	22,985 improved water supply facilities provided in schools	Number and % of schools having access to improved water supply - ratio of tap/student (1:50)
	7,772 water supply facilities constructed in health institutions	Number and % of water supply facilities constructed at health institutions
2) Sanitation access and hygienic practices increased in rural, pastoralist, and urban areas and in institutions	**Rural and Pastoralist WASH**	
	6,185,701 household sanitation facilities constructed in rural areas. Increase % of households with access to improved sanitation facilities from 65.8% to 100% in communities where CLTSH is launched	Number of improved latrines constructed Sanitation coverage in communities where CLTSH is launched
	Increased proportion of ODF kebeles from 17% to 80%	% of ODF kebeles

Parameter	Outcome	Indicator
	Sanitation marketing introduced	No. of sani marts established, no. of slabs and other products sold
	Increased proportion of HHS practicing handwashing with soap at critical times from 9% to 77%	% of HHs practicing handwashing with soap at critical times
	Household water treatment and safe storage promoted	Number and % of households practicing safe water treatment and storage
	Upgrading latrines to VIP latrines in rural areas	No. and % of HH latrines upgraded in rural areas
	Urban and peri-urban WASH	
	767,446 household latrines constructed	Number (%) of HH latrines built
	95 new public latrines constructed	Number(%) of public latrines rehabilitated
	95 new and 408 communal rehabilitated improved latrines constructed	Number(%) of new and rehabilitated communal latrines constructed
	777 town/city feasibility study and design of public latrines and sludge drying beds for towns > 50000 population prepared, 88 >or =5m^3 capacity Vacuum trucks procured for towns with greater than 50000 population	Number (%) of desludging system (vacuum truck and drying bed) installed Number of wastewater/septage systems constructed
	Desludging systems put in place for towns >50000 population	
	Feasibility study and design for wastewater management for Addis Ababa	No. of feasibility studies and designs prepared
	12,335,386 HHs exercising handwashing available	Number (%) HHs that exercise handwashing
	Institutional WASH	
	6,122 new sanitation facilities constructed and 15,122 rehabilitated in schools	Number and % of new and rehabilitated sanitation facilities constructed for schools with ratio of stance/student 1:50
	7,037 sanitation facilities constructed and 7,141 rehabilitated in health centers/posts	Number and % of new and rehabilitated sanitation facilities constructed of health centers/posts
	350 sanitation facilities constructed and 343 rehabilitated in prisons	Number (%) of new and rehabilitated sanitation facilities constructed for prisons
3) Enabling environment and good governance in the WASH sector	WASHCOs have legal status	Number and % of WASHCOs with legal status
	WASHCOs and Water Boards have 50% women members	% of WASHCO and Water Boards with 50% women members
	Geographical equity increased	% of woreda/regions geographical equity within acceptable limits
	12 Program launch workshops held	Number of Program launch workshops held
	CSOs and emergency programs reporting to WASH structure on their plan, budgets, reports on expenditure and costs	Number % of CSOs/NGOs and emergency programs reporting to WASH structures on their WASH plans, budgets, costs and expenditure
	WASHCO, woreda, zonal RWCO, NWCO and federal staff trained in data collection and database management (WASH MIS, HMIS and EMIS)	Number of staff trained in data collection, database management, (WASH MIS, HMIS and EMIS) and reporting formats

Parameter	Outcome	Indicator
	WASH data collected/analyzed using key performance indicators/NWI updated	% of standardized WASH data collection/analyzed using key performance indicators
	KWT, WWT, RWCO and NWCO prepare consolidated WASH progress reports monthly, quarterly and annually	% of consolidated reports prepared at all levels on a regular basis
	WASH review meetings held quarterly at all levels as per the WIF recommendations, including JSR and MSF, followed up	Number and % of quarterly WASH review meetings held by level JTR and MSF meetings held annually and biannually, respectively
	Technical and financial audits carried out	Number of technical and financial audits carried out/year
4) Efficient use of resources	Capacity in groundwater knowledge and siting strengthened	% successful BHs/wells
		% reduction in drilling unit cost
	Sub-regional operation and maintenance units and supply chain outlets established	% increase in functioning rate of water supply systems in rural areas
		% of TWU supplying water more than 6 hours a day to all costumers
	Per capita cost for urban water supply: USD 64.72 USD and for rural water supply as USD 16.72, 27.27 and 45.96 for low, medium and high technologies, respectively.	% reduction in per capita investment costs in town, cities and rural areas
	Per capita cost for urban sanitation: USD 54.24 for AAWSA, USD 7.58 for other towns and for rural sanitation USD 5.26.	
	Monitoring data analyzed and used in decision-making	
	Pilot/demonstration activities documented and scaled up	No. and type of pilot/demonstration activities scaled up
	Water supply in drought-prone areas prioritized to reduce water delivery by tanker	% reduction in water delivery by tankers
5) Strengthened capacity of WASH sector actors for achieving and sustaining results	Woreda/zonal/regional staff trained in:	No. of trainees by subject and gender % increase in drilling success rate by region Decrease in drilling cost by region No. of trainees by gender
	- Surface and ground water assessment, network design, environmental and social safeguards, water resources management	
	- Training in data collection and MIS/database,	
	- Financial management (for accountants)	
	- Construction methods (for contractors and artisans)	
	- Contract management and supervision (for Zonal PMUs, WWTs and TWUs)	
	Standard bidding/contract management/supervision documents prepared	No. of manuals for tendering, contract management and supervision
	16 TVETCs/HSCs supported to offer WASH courses	No. (%) TVETCs and HSCs offering relevant WASH courses/No. of graduates
	11 women and youth-led entrepreneur groups established and linked to suppliers	No. and % increase women and youth-led suppliers of WASH products and services
	Capacity of WASHCOs, artisans, HEWs and HDA improved, including follow-up activities	No. of capacity building/follow-ups made to WASHCOs, artisans, HEW sand HDA
	20 post-construction support units established/functioning	% of post-construction support units established and functioning

Parameter	Outcome	Indicator
	Health clubs established in schools	% of schools with active WASH/health clubs
	Water Boards established in Category III towns; capacity of TWBs in business planning, asset management, planning, monitoring operators, oversight of Program implementation, strengthened.	No. of category III towns establishing Water Boards No. (%) of TWBs in category I & II towns with adequate capacity to fulfill their roles in urban water supply
	TWUs trained in routine O&M, asset and financial management, customer relations, reducing UAW, etc.	% of TWU recovering full costs % of TWU recovering O&M and replacement cost
	Vehicles and vacuum trucks/carts, tool sets, office equipment, water quality testing equipment procured	No. of vehicles, vacuum trucks/carts, tool sets, office equipment, water quality equipment, etc. procured and distributed
	11 water quality laboratories supported at regional level	No. (%) water quality laboratories supported and operational
	Trained personnel in water and wastewater quality testing	% of water quality tests meeting Ethiopian water quality guidelines and discharge from wastewater treatment plant meeting WHO guidelines for agriculture use.

Scenario II-using adjusted regional/city plans

Parameter	Outcome	Indicator
Outcome	Increase in percentage of rural and urban population with access to improved water supply, sanitation and hygiene practices	% of population with access to improved water supplies (rural and pastoralist (15 lpcd in 1.5 km), urban (20 lpcd in 500m) and institutional)
		% of population with access to basic latrine facilities by rural and pastoralist, urban and institutional
		% of population using improved sanitation facilities by rural and pastoralist, urban, institutional
		% of population practicing handwashing by rural and pastoralist, urban and institutional
		% of population practicing open defecation
Outputs 1) Improved water supply increased in rural, pastoralist and urban areas, and in institutions	**Rural and Pastoralist WASH**	
	67,895 conventional and 20,803 water supply facilities constructed	Number of water supply schemes constructed, as % of target
	20,010 water schemes rehabilitated Improved functionality of water supplies	Number of water supply systems rehabilitated, as % of target
		% increase in functionality of rural water supplies
	Urban and peri-urban WASH	
	475 feasibility study and design reports for 475 towns prepared	Number of feasibility study and design reports prepared/approved
	394 water supply schemes constructed, 365 water supply systems rehabilitated/expanded	Number of urban water supply systems constructed/extended/rehabilitated
	Institutional WASH	
	17,754 school latrine facilities constructed/ rehabilitated 12512 school water facilities	Number and % of new and rehabilitated latrine and water supply facilities constructed for schools with ratio of stance/student 1:50
	15,947 Health post/centre latrine facilities constructed/ rehabilitated 13,013 Health post/centre water facilities constructed/ rehabilitated	Number and % of new and rehabilitated latrine and water supply facilities constructed of health centers/posts
2) Sanitation access and hygienic practices increased in rural, pastoralist, and urban areas and in institutions	**Rural and Pastoralist WASH**	
	6,185,701 household sanitation facilities constructed in rural areas. Increase % of households with access to improved sanitation facilities from 65.8% to 100% in communities where CLTSH is launched	Number of improved latrines constructed Sanitation coverage in communities where CLTSH is launched
	Increased proportion of ODF kebeles from 17% to 80%	% of ODF kebeles

Parameter	Outcome	Indicator
	Sanitation marketing introduced	No. of sani marts established, no. of slabs and other products sold
	Increased proportion of HHS practicing handwashing with soap at critical times from 9% to 77%	% of HHs practicing handwashing with soap at critical times
	Household water treatment and safe storage promoted	Number and % of households practicing safe water treatment and storage
	Upgrading latrines to VIP latrines in rural areas	No. and % of HH latrines upgraded in rural areas
	Urban and peri-urban WASH	
	767,446 household latrines constructed	Number (%) of HH latrines built
	Wastewater study in 16 towns, Sewerage rehabilitation, expansion and construction in Addis Ababa Procurement of 70 vacuum trucks with *or = 5m3 capacity Sludge drying bed in 47 towns	Number(%) of waste water studies conducted Number of wastewater/septage systems constructed Number (%) of desludging system (vacuum truck and drying bed) provided
	Feasibility study and design for wastewater management for Addis Ababa	No. of feasibility studies and designs prepared
	12,335,386 HH exercising handwashing available	Number (%) HHs that exercise handwashing
	Institutional WASH	
	17,754 school latrine facilities constructed/ rehabilitated 12512 school water facilities constructed/rehabilitated	Number and % of new and rehabilitated latrine and water supply facilities constructed for schools with ratio of stance/student 1:50
	15,947 Health post/centre latrine facilities constructed/ rehabilitated 13,013 Health post/centre water facilities constructed/ rehabilitated	Number and % of new and rehabilitated latrine and water supply facilities constructed of health centers/posts
3) Enabling environment and good governance in the WASH sector	WASHCOs have formal recognition/legal status	Number and % of WASHCOs formally recognized/with legal status
	WASHCOs and Water Boards have 50% women members	% of WASHCO and Water Boards with 50% women members
	Geographical equity increased	% of woreda/regions geographical equity within acceptable limits
	12 Program launch workshops held	Number of Program launch workshops held
	CSOs and emergency programs reporting to WASH structure on their plan, budgets, reports on expenditure and costs	Number % of CSOs/NGOs and emergency programs reporting to WASH structures on their WASH plans, budgets, costs and expenditure
	WASHCO, woreda, zonal RWCO, NWCO and federal staff trained in data collection and database management (WASH MIS, HMIS and EMIS)	Number of staff trained in data collection, database management, (WASH MIS, HMIS and EMIS) and reporting formats
	WASH data collected/analyzed using key performance indicators/NWI updated	% of standardized WASH data collection/analyzed using key performance indicators
	KWT, WWT, RWCO and NWCO prepare consolidated WASH progress reports monthly, quarterly and annually	% of consolidated reports prepared at all levels on a regular basis

Parameter	Outcome	Indicator
	WASH review meetings held quarterly at all levels as per the WIF recommendations, including JSR and MSF, followed up	Number and % of quarterly WASH review meetings held by level JTR and MSF meetings held annually and biannually, respectively
	Technical and financial audits carried out	Number of technical and financial audits carried out/year
4) Efficient use of resources	Capacity in groundwater knowledge and siting strengthened	% successful BHs/wells
		% reduction in drilling unit cost
	Sub-regional operation and maintenance units and supply chain outlets established	% increase in functioning rate of water supply systems in rural areas
		% of TWU supplying water more than 6 hours a day to all costumers
	Per capita cost for urban water supply: USD 64.72 USD and for rural water supply as USD 16.72, 27.27 and 45.96 for low, medium and high technologies, respectively.	% reduction in per capita investment costs in town, cities and rural areas
	Per capita cost for urban sanitation: USD 54.24 for AAWSA, USD 7.58 for other towns and for rural sanitation USD 5.26.	
	Monitoring data analyzed and used in decision-making	
	Pilot/demonstration activities documented and scaled up	No. and type of pilot/demonstration activities scaled up
	Water supply in drought-prone areas prioritized to reduce water delivery by tanker	% reduction in water delivery by tankers
5) Strengthened capacity of WASH sector actors for achieving and sustaining results	Woreda/zonal/regional staff trained in:	No. of trainees by subject and gender % increase in drilling success rate by region Decrease in drilling cost by region No. of trainees by gender
	- Surface and ground water assessment, network design, environmental and social safeguards, water resources management	
	- Training in data collection and MIS/database,	
	- Financial management (for accountants)	
	- Construction methods (for contractors and artisans)	
	- Contract management and supervision (for Zonal PMUs, WWTs and TWUs)	
	Standard bidding/contract management/supervision documents prepared	No. of manuals for tendering, contract management and supervision
	16 TVETCs/HSCs supported to offer WASH courses	No. (%) TVETCs and HSCs offering relevant WASH courses/No. of graduates
	11 women and youth-led entrepreneur groups established and linked to suppliers	No. and % increase women and youth-led suppliers of WASH products and services
	Capacity of WASHCOs, artisans, HEWs and HDA improved, including follow-up activities	No. of capacity building/follow-ups made to WASHCOs, artisans, HEW sand HDA
	20 post-construction support units established/functioning	% of post-construction support units established and functioning
	Health clubs established in schools	% of schools with active WASH/health clubs

Parameter	Outcome	Indicator
	Water Boards established in Category III towns; capacity of TWBs in business planning, asset management, planning, monitoring operators, oversight of Program implementation, strengthened.	No. of category III towns establishing Water Boards No. (%) of TWBs in category I & II towns with adequate capacity to fulfill their roles in urban water supply
	TWUs trained in routine O&M, asset and financial management, customer relations, reducing UAW, etc.	% of TWU recovering full costs % of TWU recovering O&M and replacement cost
	Vehicles and vacuum trucks/carts, tool sets, office equipment, water quality testing equipment procured	No. of vehicles, vacuum trucks/carts, tool sets, office equipment, water quality equipment, etc. procured and distributed
	11 water quality laboratories supported at regional level	No. (%) water quality laboratories supported and operational
	Trained personnel in water and wastewater quality testing	% of water quality tests meeting Ethiopian water quality guidelines and discharge from wastewater treatment plant meeting WHO guidelines for agriculture use.

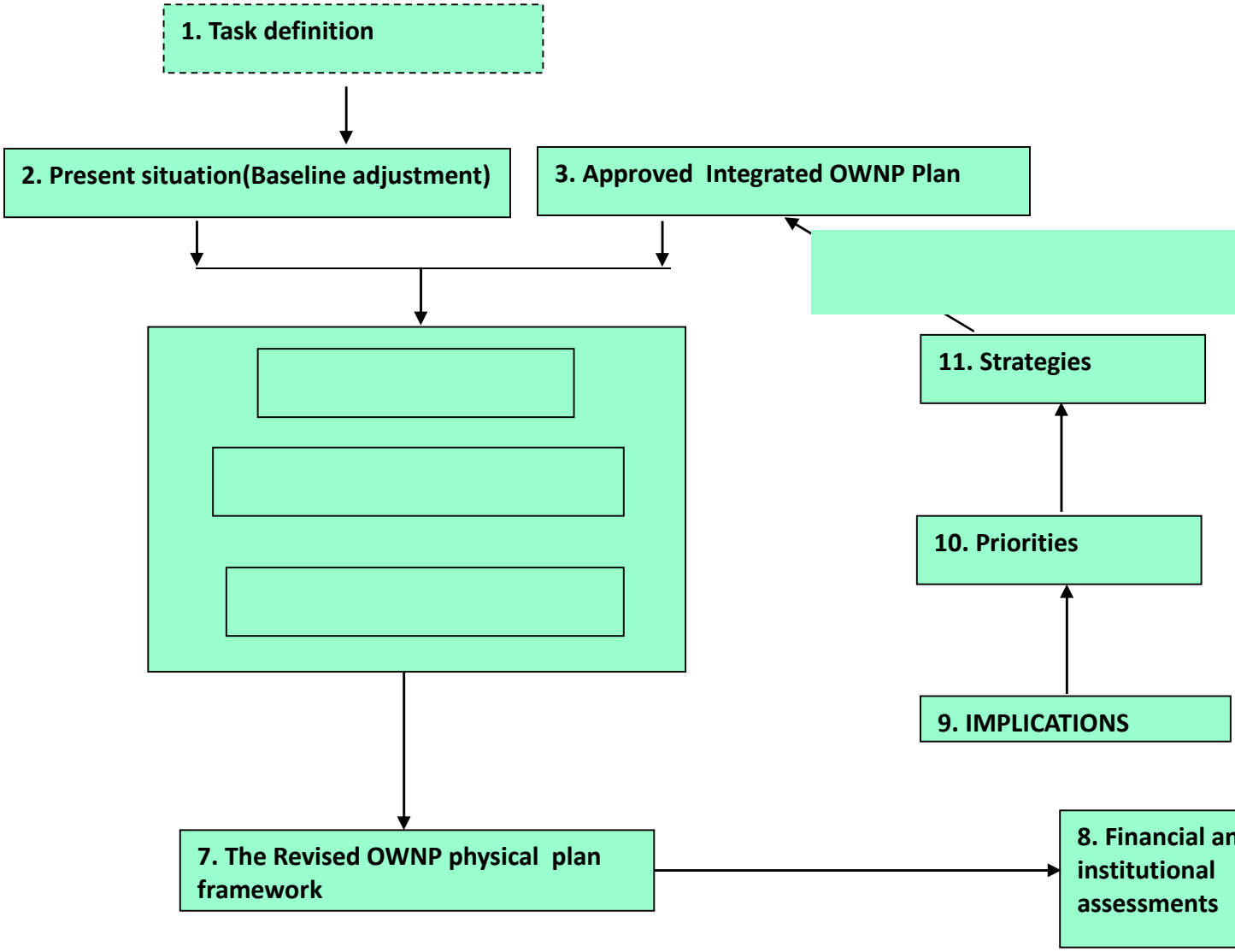
Annex 9: Indicative Technical Assistance Requirements – Phase I

No.	Description	Timing/Duration	Comment/Collaboration
1.	Program Implementation Support – federal, regional and woreda levels	Continuous 2013-2015	To be coordinated by NWCO
2.	Develop National Groundwater Database with mapping capabilities	TBD	To be coordinated with MoWE/ JICA/UNESCO
3.	Design and Establish National Water Quality Database and Surveillance Protocol/Procedures	Intermittent 2013-2014	To be led by MoH
4.	One WASH communication strategy, media, activities and materials production	Intermittent 2013-2015	To be coordinated with UNICEF
5.	Training Water Supply Supervisors	Continuous 2013-2015	To be coordinated with EWTI/ WRDF/Italian Cooperation
6.	Training Water Supply Civil Contractors	Continuous 2013-2015	To be coordinated with EWTI/ WRDF/Italian Cooperation
7.	Strategy and Approach to Urban Sanitation, including WASH services to low-income areas	Short-term 2013	To be coordinated with UNICEF/ DFID
8.	Strategy and Procedures for Scaling up Self-Supply, Monitoring and Assessment of Results	Continuous 2013-2015	To be coordinated with IRC/JICA
9.	Strategy and Procedures for Scaling up Supply Chains for WASH Goods and Services	Short-term 2013	To be coordinated with WB/SNV/WaterAid
10.	Assessment of support to TVETCs and HSCs	Intermittent 2014-2015	To be coordinated with UNICEF/ SNV/WaterAid
11.	Training networks: EWTI, universities and TVETCs, twinning with regional/international training centers	Intermittent 2014-2015	To be coordinated with MoE/ JICA/UNESCO
12.	Data collection and consolidated reporting systems	Intermittent 2013-2015	To be coordinated by NWCO
13.	IT networks/mobile data transmission/tech support	Short-term 2013	To be coordinated by NWCO
14.	Pastoralist WASH Strategy, Implementation Arrangements and Monitoring Indicators	Short-term 2013	To be coordinated with MoH
15.	Assessment of Pastoralist WASH strategy and results	Intermittent 2014-2015	To be coordinated by NWCO
16.	Preparing Standard Bidding/Contract Documents	Short-term 2013	To be coordinated by NWCO
17.	Contracting/Contact Management/O&M for Urban Water Supplies	Intermittent 2014-2015	To be coordinated with WRDF/ Italian Cooperation/JICA (small towns)
18.	WASH in peri-urban areas - Strategy and Implementation Arrangements	Short-term 2013	To be coordinated with UNICEF/ DFID
19.	Legalization of WASHCOs	Short-term 2013	To be coordinated with COWASH/ WaterAid
20.	Assessment of Post-construction Management and Technical Support to WASHCOs	Intermittent 2014-2015	To be coordinated with regional and city bureaus
21.	QA/Infrastructure Audits/Sustainability Checks	Intermittent 2014-2015	To be coordinated with UNICEF
22.	Support to Preparing Annual WASH Sector Performance Reports	Intermittent 2013-2015	To be coordinated by NWCO
23.	Adaptation/Preparation of Program Management and Technical Manuals/Guidelines	Short-term 2013	To be coordinated by NWCO

Annex 10: Planning Model and Assumptions for Physical and Financial Requirements

The following diagram shows the conceptual model used in the Program's planning process:

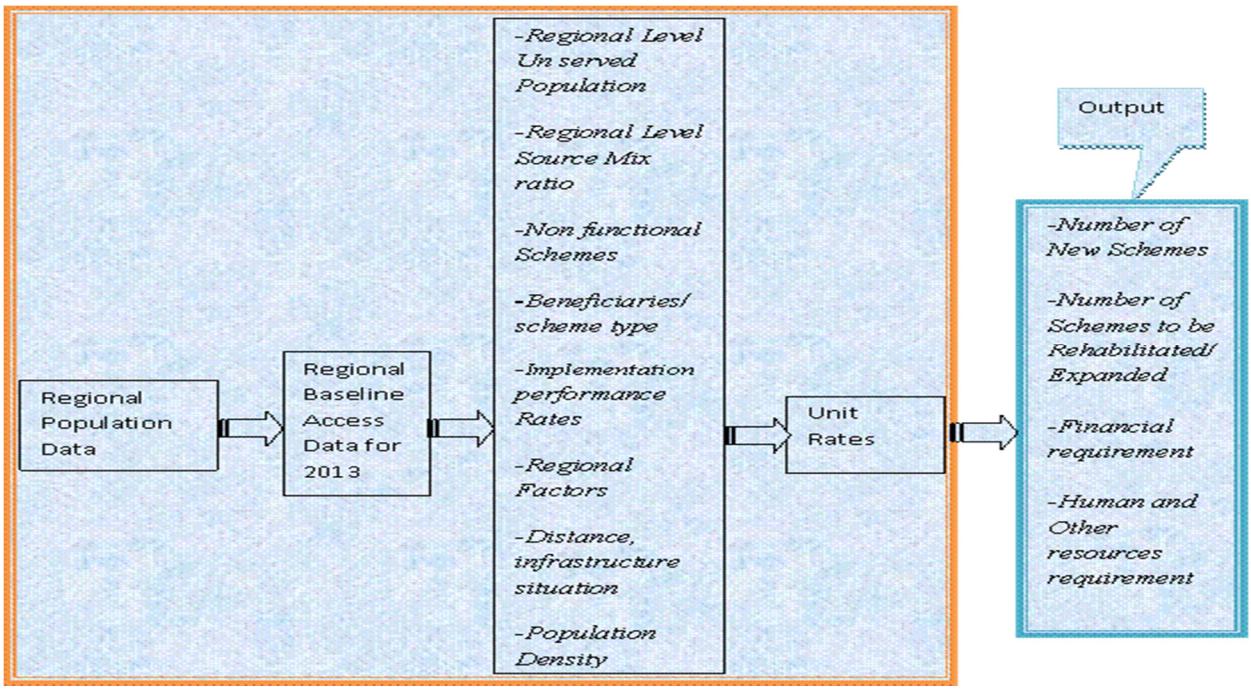
Figure A10-1: Conceptual Model for Program Planning



Planning Model for Rural Water Supply

The planning model for rural water supply is shown in Figure A10-2 below in which the unserved population by region, source mix ratios, non-functionality rates, beneficiaries by scheme type, regional factors and population density are used to determine number of schemes to be constructed/ rehabilitated and corresponding resource requirements**.**

Figure A10-2: Schematic Diagram of Rural Water Supply Planning Model



Planning Assumptions

The following tables show the underlying assumptions used in determining the Program's physical and financial requirements:

Table A1: Indicative Unit Rates[1] - Rural Water Supply (USD)

No.	Region/Year	Regional Factor[2]	Shallow Borehole with submersible pump	Deep Borehole with Piped Scheme	Multi Village piped scheme	Rainwater harvesting	Cistern	Hafir Dam	Other
1	Tigray								
	2014	1.05	65,095	151,890	216,985	1,578	4,339	21,698	9,468
	2015	1.05	66,723	155,687	222,410	1,617	4,448	22,241	9,705
2	Gambella								
	2014	1.1	68,195	159,122	227,318	1,653	4,546	22,731	9,919
	2015	1.1	69,900	163,101	233,001	1,694	4,660	23,300	10,167
3	B. Gumuz								
	2014	1.1	68,195	159,122	227,318	1,653	4,546	22,731	9,919
	2015	1.1	69,900	163,101	233,001	1,694	4,660	23,300	10,167
4	Dire Dawa								
	2014	1.05	65,095	151,890	216,985	1,578	4,339	21,698	9,468
	2015	1.05	66,723	155,687	222,410	1,617	4,448	22,241	9,705
5	Harari								
	2014	1.05	65,095	151,890	216,985	1,578	4,339	21,698	9,468
	2015	1.05	66,723	155,687	222,410	1,617	4,448	22,241	9,705
6	Somali								
	2014	1.25	77,494	180,821	258,316	1,878	5,166	25,831	11,272

No.	Region/Year	Regional Factor[2]	Shallow Borehole with submersible pump	Deep Borehole with Piped Scheme	Multi Village piped scheme	Rainwater harvesting	Cistern	Hafir Dam	Other
	2015	1.25	79,432	185,342	264,774	1,925	5,295	26,477	11,554
7	Amhara								
	2014	1.0	61,995	144,657	206,653	1,502	4,133	20,665	9,017
	2015	1.0	63,545	148,273	211,819	1,540	4,236	21,181	9,243
8	Afar								
	2014	1.25	77,494	180,821	258,316	1,878	5,166	25,831	11,272
	2015	1.25	79,432	185,342	264,774	1,925	5,295	26,477	11,554
9	SNNPR								
	2014	1.0	61,995	144,657	206,653	1,502	4,133	20,665	9,017
	2015	1.0	63,545	148,273	211,819	1,540	4,236	21,181	9,243
10	Oromia								
	2014	1.0	61,995	144,657	206,653	1,502	4,133	20,665	9,017
	2015	1.0	63,545	148,273	211,819	1,540	4,236	21,181	9,243
11	National								
	2014		63,555	148,296	211,852	1,512	4,237	21,185	9,075
	2015		65,144	152,004	217,148	1,550	4,342	21,714	9,302

Table A1 (continued): Indicative Unit Rates[1] - Rural Water Supply (USD)

No.	Region/Year	Regional Factor[2]	Household Dug well with Rope Pump	Community Dug well with Rope Pump	Dug well with Hand Pump	Capped Spring	Spring with Piped System	Shallow Borehole with Hand Pump
1	Tigray							
	2014	1.05	94	1,183	4,260	5,523	173,588	10,299
	2015	1.05	97	1,213	4,367	5,661	177,928	10,557
2	Gambella		-	-	-	-	-	-
	2014	1.1	99	1,239	4,463	5,786	181,854	10,299
	2015	1.1	101	1,270	4,575	5,931	186,401	10,557
3	B. Gumuz		-	-	-	-	-	-
	2014	1.1	99	1,239	4,463	5,786	181,854	10,790
	2015	1.1	101	1,270	4,575	5,931	186,401	11,059
4	Dire Dawa		-	-	-	-	-	-
	2014	1.05	94	1,183	4,260	5,523	173,588	10,299
	2015	1.05	97	1,213	4,367	5,661	177,928	10,557
5	Harari		-	-	-	-	-	-
	2014	1.05	94	1,183	4,260	5,523	173,588	10,299
	2015	1.05	97	1,213	4,367	5,661	177,928	10,557
6	Somali		-	-	-	-	-	-
	2014	1.25	112	1,409	5,072	6,575	206,653	12,261
	2015	1.25	115	1,444	5,199	6,739	211,819	12,567
7	Amhara		-	-	-	-	-	-
	2014	1.0	90	1,127	4,058	5,260	165,322	9,809
	2015	1.0	92	1,155	4,159	5,391	169,455	10,054
8	Afar		-	-	-	-	-	-
	2014	1.25	112	1,409	5,072	6,575	206,653	12,261
	2015	1.25	115	1,444	5,199	6,739	211,819	12,567
9	SNNPR		-	-	-	-	-	-
	2014	1.0	90	1,127	4,058	5,260	165,322	9,809
	2015	1.0	92	1,155	4,159	5,391	169,455	10,054
10	Oromia		-	-	-	-	-	-
	2014	1.0	90	1,127	4,058	5,260	165,322	9,809
	2015	1.0	92	1,155	4,159	5,391	169,455	10,054
11	National		-	-	-	-	-	-
	2014		90	1,134	4,084	5,294	169,481	9,973
	2015		93	1,162	4,186	5,426	173,718	10,223

[1]Assuming average annual price inflation of 2.5%.

[2] An adjustment factor for variations in prices among regions

Table A2: Per capita costs - urban water supply (USD)

Population	Per Capita Cost (USD)	Factor for use of existing system[1]
<1,000	90.00	0.60
1,000 to 5,000	85.00	0.60
5000 to 15,000	80.00	0.60
15,000 to 20,000	75.00	0.70
20,000 to 30,000	70.00	0.70
30,000 to 50,000	65.00	0.70
50,000 to 100,000	60.00	0.70
100,000 to 200,000	55.00	0.80
200,000 to 500,000	50.00	0.80
500,000 to 1,000,000	49.00	0.85
>1,000,000	45.79	0.90
National average	**64.05**	**0.72**

[1] Adjustment for complementary use of existing infrastructure

Table A3: Technology Mix Ratio by Region

No	Region	Scheme Type													
		House Hold Dug well with Rope Pump	Community Dug well with Rope Pump	Dug well with Handpump	Capped Spring	Spring with piped system	Shallow Borehole with Hand pump	Shallow Borehole with submersible pump	Deep Borehole with Piped Scheme	Multi Village piped scheme	Rain Water harvesting	Cistern	Hafir Dam	Other	Total
1	Tigray	-	-	0.17	0.04	-	0.27	0.19	0.33	0.00	-	-	-	-	1.00
2	Gambela	-	0.10	0.26	0.09	-	0.23	0.12	0.20	-	-	-	-	-	1.00
3	B. Gumuz	-	-	0.28	0.12	-	0.16	0.14	0.30	-	-	-	-	-	1.00
4	Diredawa	-	-				0.47	0.24	0.29	-	-	-	-	-	1.00
5	Harari	-			-	-	0.20	0.19	0.27	0.07	0.18	-	-	0.10	1.00
6	Somali	-	-		-	-		0.03	0.51	0.02	0.04	0.23	0.14	0.03	1.00
7	Amhara	0.01	0.12	0.37	0.10	0.01	0.23	0.08	0.08	-	-	-	-	-	1.00
8	Afar		-	-		-	0.14	0.11	0.46	-	0.12	0.17	-		1.00
9	SNNPR	0.001	0.02	0.16	0.22	0.08	0.18	0.14	0.17	-	0.02	-	-	0.01	1.00
10	Oromiya	0.01	0.1	0.25	0.17	0.02	0.18	0.12	0.16	-	-	-	-	-	1.00

Table A4: Estimated Beneficiaries by Type of Scheme

HH dug well with Rope Pump	Community dug well with Rope Pump	Dug well with Handpump	Capped Spring	Spring with piped system	Shallow borehole with hand pump	Shallow borehole with submersible pump	Deep borehole with Piped Scheme	Multi Village Piped Scheme	Rainwater harvesting	Cistern	Hafir Dam	Other
6	75	270	350	4000	500	1,500	3,500	5,000	100	100	500	800

Table A5: Population Density Factors by Region

No.	Region	Area in km²	Population Density (km²)	Population within 1.5 km Point Sources	Population Density and GTP Factor using 1.5 Km Service Radius						
					Community dug well with Rope Pump	Dug well With handpump	Capped Spring	Shallow well with handpump	Rainwater Harvesting	Cistern	Hafir Dam
1	Tigray	50,079	88.8	627.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2	Gambella	25,802	9.8	69.30	1.08	3.90	5.05	7.22	1.44	1.44	7.22
3	B. Gumuz	49,289	13	91.93	1	2.94	3.81	5.44	1.09	1.09	5.44
4	Dire Dawa rural	1,196	99.4	702.90	1	1.00	1.00	1.00	1.00	1.00	1.00
5	Harari rural		99.4	702.90	1	1.00	1.00	1.00	1.00	1.00	1.00
6	Somali		14	99.00	1	2.73	3.54	5.05	1.01	1.01	5.05
7	Amhara	159,174	123.3	871.91	1	1.00	1.00	1.00	1.00	1.00	1.00
8	Afar	72,053	29.7	210.02	1	1.29	1.67	2.38	1.00	1.00	2.38
9	SNNPR	112,343	136.4	964.54	1	1.00	1.00	1.00	1.00	1.00	1.00
10	Oromia	353,007	77.3	546.62	1	1.00	1.00	1.00	1.00	1.00	1.00

Note:

1 Assumed in the absence of current data

2 Other data are from the 2007 National Census (CSA)

Table A6: Rural Health Facilities - Water Supply Status by Region and Year

No.	Region	Rural Health Posts (2010/11)	Rural Health Posts without water supply	Rural Health Centers	Rural Health Centers without water supply	Rural Health facilities without water supply	
						2014	2015
1	Tigray	714	286	198	59	355	359
2	Afar	330	132	96	29	166	167
3	Amhara	3154	1,262	820	246	1,553	1,569
4	Oromia	6624	2,650	1,150	345	3,085	3,116
5	Somali	985	394	191	57	465	470
6	B. Gumuz	447	179	40	12	197	199
7	SNNP	3712	1,485	646	194	1,729	1,747
8	Gambella	253	101	35	11	115	116
9	Harari rural	20	8	8	2	11	11
10	Dire Dawa rural	34	14	16	5	19	19
11	Addis Ababa (peri-urban)		-	99	30		
	Total	**16,273**	**6,509**	**3,299**	**990**	**7,696**	**7,772**

Based on Health sector Development Program IV Woreda Based Annual Core plan 2010/11

Table A7: Primary schools – Water Supply Status by Region/City[1]

Region/City	Primary schools[2]					With water supply	Without water supply
	2011	2012	2013	2014	2015		
Tigray	1,995	1,997	1,999	2,001	2,003	441	1,562
Afar	476	476	476	476	476	157	319
Amhara	7,327	7,334	7,341	7,348	7,355	1,406	5,949
Oromia	11,729	11,741	11,753	11,765	11,777	2,838	8,939
Somali	928	929	930	931	932	42	890
B. Gumuz	448	448	448	448	448	55	393
SNNP	5,404	5,409	5,414	5,419	5,424	1,601	3,823
Gambella	229	229	229	229	229	34	195
Harari	69	69	69	69	69	43	26
Addis Ababa	770	771	772	773	774	601	173
Dire Dawa	107	107	107	107	107	34	73
Total	**29,482**	**29,510**	**29,538**	**29,566**	**29,594**	**7,252**	**22,342**

[1] Source: 2012 Educational Statistics Abstract, MOE, Addis Ababa.

[2] Estimated increase of 1% per year

Table A8: Secondary Schools – Water Supply Status by Region/City[1]

Region/City	Secondary Schools[2]					With water supply	Without water supply
	2011	2012	2013	2014	2015		
Tigray	132	132	132	132	132	94	38
Afar	18	18	18	18	18	17	1
Amhara	300	300	300	300	300	194	106
Oromia	615	616	617	618	619	383	236
Somali	66	66	66	66	66	0	66
B. Gumuz	45	45	45	45	45	11	34
SNNP	290	290	290	290	290	185	105
Gambella	26	26	26	26	26	9	17
Harari	9	9	9	9	9	9	0
Addis Ababa	190	190	190	190	190	156	34
Dire Dawa	19	19	19	19	19	13	6
Total	**1,710**	**1,711**	**1,712**	**1,713**	**1,714**	**1,071**	**643**

[1] Source: 2012 Educational Statistics Abstract, MoE, Addis Ababa.
[2] Estimated increase of 1% per year

Table A9: Projected Rural Population by Region/City and Year

Region/City	Year	
	2014	2015
Tigray	3,760,000	3,791,000
Gambela	272,000	277,000
Benshangul Gumuz	787,000	803,000
Diredawa	159,000	164,000
Harari	101,000	104,000
Somali	4,543,000	4,665,000
Amhara	16,892,000	17,092,000
Afar	1,389,000	1,415,000
SNNPR	15,129,000	15,420,000
Oromiya	28,169,000	28,812,000
Special Areas	75,000	75,000
Total	**71,276,000**	**72,618,000**

Source: CSA July 2013

Table A10: Projected Urban Population by Region/City and Year

Region/City	Year	
	2014	2015
Tigray	1,200,000	1,264,000
Gambela	124,000	132,000
B. Gumuz	189,000	202,000
Dire Dawa	268,000	276,000
Harari	125,000	128,000
Somali	764,000	787,000
Amhara	3,127,000	3,307,000
Afar	290,000	308,000
SNNPR	2,707,000	2,856,000
Oromiya	4,647,000	4,880,000
Addis Ababa	3,253,000	3,338,000
Special Areas	41,000	43,000
Total	**16,735,000**	**17,521,000**

Table A11: Assumptions for Determining Human Resource Requirements

No.	Skilled workers/ Professionals	Schemes/year	National	Regional	Involvement
1	Artisans	10	-	-	Labor intensive schemes
2	Water technicians	10	-	-	All schemes
3	Electromechanical technicians	8	-	-	Schemes with EM equipment
4	Mechanics/Handpump technicians	10	-	-	Schemes with pumps
5	Chief drillers	20	-	-	Boreholes
6	Assistant drillers	20	-	-	Boreholes
7	Water supply engineers	18	-	-	All schemes
8	Hydrogeologists	50	-	-	All schemes
9	Electrical engineer and related	40	-	-	-
10	Chemist, biologist, lab technician	50	-	-	-
11	Socio-economists	40	-	-	All schemes
12	Accountants	30	-	-	All schemes
13	Community Facilitation Teams (2 per team)	80	-	-	All schemes
14	Woreda Support Groups (4 per team)	100	-	-	All schemes
15	WASH Coordinator	-	1	1	All schemes
16	Water supply engineers	-	4	2 to 3	All schemes
17	Procurement specialists	-	4	2 to 3	All schemes
18	Other specialists	-	4	2 to 3	All schemes
19	Supply chain specialists	-	2	1	All schemes
20	M&E specialists	-	3	1 to 2	All schemes

Table A12: Indicative Composition and Annual Cost of Woreda Minimum Support Package

No.	Description	Amount (USD)
1	Fuel for motor bikes	4,588
2	Oil and lubricants - vehicle and motorbikes	459
3	Spare parts for vehicle and motor bikes	3,059
4	Communication and stationary	1,000
5	Refresher training and seminars	5,882
6	Field allowance	7,824
7	Revolving fund for spare parts	4,412
8	Equipment and furniture	1,529
9	Annual Woreda WASH Plan Preparation	1,500
10	Annual WASH inventory update	2,000
11	Training water committees and caretakers	5,882
	Total	**38,135**

Table A13: Program Management Costs by Region and Year (USD)

No.	Region/City	Year		Total (USD)
		2014	2015	
1	Tigray	1,814,547	1,859,910	3,674,458
2	Gambella	747,871	766,568	1,514,439
3	B. Gumuz	1,076,409	1,103,319	2,179,728
4	Dire Dawa	255,600	261,990	517,591
5	Harari	255,600	261,990	517,591
6	Somali	2,101,481	2,154,018	4,255,500
7	Amhara	6,822,068	6,992,620	13,814,688
8	Afar	1,526,540	1,564,704	3,091,244
9	SNNPR	5,672,186	5,813,990	11,486,176
10	Oromia	10,764,521	11,033,634	21,798,156
11	Federal	753,316	772,149	1,525,466
	Total	**31,790,144**	**32,584,898**	**64,375,043**

Table A14: Study and Design Financial Requirement by Region and Year (USD)

No.	Region	Year		Total (USD)
		2014	2015	
1	Tigray	1,051,636	1,077,927	2,129,564
2	Gambela	240,626	246,642	487,269
3	B. Gumuz	501,582	514,121	1,015,703
4	Diredawa	26,529	27,193	53,722
5	Harari	17,063	17,490	34,553
6	Somali	2,849,998	2,921,248	5,771,246
7	Amhara	8,081,659	8,283,701	16,365,360
8	Afar	1,121,274	1,149,306	2,270,581
9	SNNPR	6,014,167	6,164,521	12,178,689
10	Oromia	12,187,259	12,491,940	24,679,199
	Total	32,091,795	32,894,090	64,985,885

Table A15: Post-Construction Management Support by Region and Year (USD)

No.	Region	Number	Cost (USD)	Year		Total (USD)
				2014	2015	
1	Tigray	2	2,020,000	1,087,660	1,114,851	2,202,511
2	Gambella	1	1,010,000	543,830	557,426	1,101,255
3	B. Gumuz	1	1,010,000	543,830	557,426	1,101,255
4	Dire Dawa	1[1]	505,000	271,915	278,713	550,628
5	Harari		505,000	271,915	278,713	550,628
6	Somali	2	2,020,000	1,087,660	1,114,851	2,202,511
7	Amhara	3	3,030,000	1,631,489	1,672,277	3,303,766
8	Afar	1	1,010,000	543,830	557,426	1,101,255
9	SNNPR	4	4,040,000	2,175,319	2,229,702	4,405,021
10	Oromia	5	5,050,000	2,719,149	2,787,128	5,506,276
	Total	**20**	**20,200,000**	**10,876,595**	**11,148,510**	**22,025,106**

[1] One unit will serve both Dire Dawa and Harari

Table A16: Estimated Capacity Building Costs by Region and Year, including TVETCs and HSCs (USD)

No.	Region	Training			Manual preparation[1]	Software	Vehicles and motorbikes	TVETCs and HSCs		
		2014	2015	Total (USD)				2014	2015	Total (USD)
1	Tigray	6,779	6,949	13,728	62,332	18,182	557,665	572,405	586,715	1,159,121
2	Gambella	1,053	1,080	2,133	9,6840	18,182	228,160	381,603	391,143	772,747
3	B. Gumuz	2,374	2,434	4,808	21,830	18,182	256,812	381,603	391,143	772,747
4	Dire Dawa	559	573	1,132	5,136	18,182	91,264	381,603	391,143	772,747
5	Harari	559	573	1,132	5,136	18,182	89,672	381,603	391,143	772,747
6	Somali	6,564	6,728	13,292	60,352	18,182	707,295	381,603	391,143	772,747
7	Amhara	27,932	28,631	56,563	256,818	18,182	1,653,362	954,009	977,859	1,931,869
8	Afar	3,422	3,507	6,929	31,460	18,182	376,729	381,603	391,143	772,747
9	SNNPR	24,324	24,933	49,257	223,646	18,182	1,599,771	954,009	977,859	1,931,869
10	Oromia	34,479	35,341	69,820	317,010	18,182	2,482,166	1,144,811	1,173,431	2,318,243
11	Federal	3,224	3,304	6,528	29,641	18,182	212,242	-	-	-
	Total	**111,269**	**114,053**	**225,322**	**1,023,045**	**200,002**	**8,255,137**	**5,914,859**	**6,062,730**	**11,977,590**

Table A17: Support to Ethiopian Water Technology Institute by Year (USD)

No.	Year		Total (USD)
	2014	2015	
1	1,805,090	1,850,217	3,655,308

Table A18: Training, Manual Preparation, Procurement of Software, Motor Bikes and Vehicles

No.	Region	Training 2014-15	Manual preparation (2014)	Software (2014)	Vehicles and Motor Bikes (2014)	Total (USD)
1	Tigray	6,949	13,728	62,332	18,182	557,665
2	Gambella	1,080	2,133	9,684	18,182	228,160
3	B. Gumuz	2,434	4,808	21,830	18,182	256,812
4	Dire Dawa	573	1,132	5,136	18,182	91,264
5	Harari	573	1,132	5,136	18,182	89,672
6	Somali	6,728	13,292	60,352	18,182	707,295
7	Amhara	28,631	56,563	256,818	18,182	1,653,362
8	Afar	3,507	6,929	31,460	18,182	376,729
9	SNNPR	24,933	49,257	223,646	18,182	1,599,771
10	Oromia	35,341	69,820	317,010	18,182	2,482,166
11	Federal	3,304	6,528	29,641	18,182	212,242
	Total	**114,053**	**225,322**	**1,023,045**	**200,002**	**8,255,137**

Table A19[1]: Requirement for Capacity Building by Region and Year (USD)

No.	Region	Year		Total (USD)
		2014	2015	
1	Tigray	905,514	928,152	1,833,666
2	Gambella	515,453	528,339	1,043,792
3	B. Gumuz	537,190	550,619	1,087,809
4	Dire Dawa	444,230	455,336	899,567
5	Harari	443,434	454,520	897,955
6	Somali	785,934	805,582	1,591,517
7	Amhara	1,958,397	2,007,357	3,965,754
8	Afar	603,023	618,099	1,221,123
9	SNNPR	1,911,362	1,959,146	3,870,509
10	Oromia	2,602,710	2,667,778	5,270,488
11	Federal	1,960,950	2,009,974	3,970,924
	Total	**12,668,202**	**12,984,907**	**25,653,109**

[1] Table 19 is summation of tables A16, A17 and A18

Table A19: Water Quality Management/Water Safety Plans (USD)

No.	Region	Year		Total (USD)
		2014	2015	
1	Afar	104,188	106,792	210,980
2	Amhara	1,309,417	1,342,152	2,651,570
3	B. Gumuz	52,094	53,396	105,490
4	Dire Dawa	10,047	10,297	20,345
5	Gambella	22,326	22,884	45,210
6	Harari	7,814	8,009	15,824
7	Oromia	2,223,665	2,279,257	4,502,923
8	SNNP	1,255,835	1,287,231	2,543,066
9	Somali	343,820	352,415	696,235
10	Tigray	308,098	315,800	623,899
11	Federal	464,409	476,019	940,428
	Total	**6,101,714**	**6,254,256**	**12,355,970**

Note: USD 940,428for fluoride mitigation is included in the federal budget.

Table A20: Catchment Protection and Environmental Management Plans (USD)

No.	Region	Year		Total (USD)
		2014	2015	
1	Tigray	433,250	444,081.30	877,331
2	Gambela	119,959	122,958.21	242,917
3	B. Gumuz	276,414	283,324.60	559,739
4	Diredawa	7,872	8,069.00	15,941
5	Harari	7,795	7,989.57	15,784
6	Somali	650,359	666,618.30	1,316,978
7	Amhara	3,932,518	4,030,830.95	7,963,349
8	Afar	257,427	263,863.16	521,291
9	SNNPR	3,270,663	3,352,430.07	6,623,094
10	Oromiya	6,138,074	6,291,525.60	12,429,599
	Total	15,094,332	15,471,690.74	30,566,023

Table A21: Support to Supply Chains by Region and Year (USD)

Region	Groups	Training Cost		Other Support		Total (USD)
		2014	2015	2014	2015	
Harari	1	1,613	1,613	5,806	5,951	11,758
Gambella	1	1,613	1,613	5,806	5,951	11,758
B. Gumuz	1	1,613	1,613	5,806	5,951	11,758
Dire Dawa	1	1,613	1,613	5,806	5,951	11,758
Afar	2	1,613	3,226	11,613	11,903	23,516
Somali	2	1,613	3,226	11,613	11,903	23,516
Tigray	2	1,613	3,226	11,613	11,903	23,516
SNNPR	3	1,613	4,839	17,419	17,854	35,274
Amhara	3	1,613	4,839	17,419	17,854	35,274
Oromia	4	1,613	6,452	23,226	23,806	47,032
Total	**20**	**1,613**	**32,260**	**116,130**	**119,033**	**235,163**

Table 22: Technical Assistance - Pastoralist WASH

No.	Technical Assistance	No.	Cost USD	Duration (months)	Logistics		Training of Trainers		Total (USD)	Remarks
					Qty	USD	Qty	USD		
1	Resource mapping	1	10,000	1	LS	3500	LS	10,000	23,500	1 month training 8 professionals
2	Appropriate water supply and sanitation technology	1	14,000	1	LS	5,000	LS	15,000	34,000	1 month training 10 professionals
3	Scheme management/ O&M of water supplies	16,000	1	1	LS	6,000	LS	15,000	37,000	1 month training for 30 technicians
								Total	**94,500**	

2014	2015	Total
47250	48,431	95,681

Table 23: Technical Assistance for M&E, MIS and Data Management

OWNP Pillar	OWNP Outcome	Output	TA name	Duration (day)	Cost (USD)	Remark
Capacity Building	Increased monitoring and evaluation knowledge, data quality, reliability of information in WaSH sector	WaSH M&E, MIS and database training manual prepared and trainings conducted for the program PMU and M&E experts at federal, regional and zonal level to cascade down to towns/cities, woredas and kebeles	Trainer	45	22,590	Cost includes trainees' expenses. More details on Cost is shown in Cost break down sheet
	Increased monitoring and evaluation knowledge, data quality, reliability of information in WaSH sector	Refreshment trainings on WaSH M&E, MIS and database conducted for the program PMU and M&E experts at federal, regional and zonal level to cascade down to towns/cities, woredas and kebeles	Trainer	180	90,360	Cost includes the trainees expenses. Refreshing training is planned for four years in annual bases
	Increased monitoring and evaluation knowledge, data quality, better evidence and reliability of information in WaSH sector	Standard data entry formats designed and introduced to the federal and regional/zonal PMU and M&E staff to cascade down to towns/cities, woredas and kebeles	Data Entry Format Developer	40	19,201	Cost includes the trainees expenses
	Increased data quality, information flow, reliability of information in WaSH sector	Linked the four Management information systems (HMIS, EMIS, WaSH-MIS , and IBEX) so that they can share WaSH related data and information etc.	IT Expert	120	75,000	Not including hardware (server, computers and accessories)
	Increased water quality, ground water , impact, outcome indicator , crosscutting issues, capacity building information flow in WaSH sector	Database for groundwater, hydrology and water quality established , WaSH-MISs updated to integrate, outcome and impact indicators, evaluation reports and capacity building activities, status of ongoing programs and cross cutting issues.	Database Developer	30	10,000	
	Increased quality of WaSH annual performance report to inform sector actors and public at large	M&E staff trained (on job) on annual WaSH sector performance report preparation	Report preparation	20	8,000	
				Total	**225,151**	

2014	2015	Total
112,576	115,390	227,966

Table 24: Self Supply Technical Assistance

No.	Activity	Cost (USD) 2014-2015
1	Inception Phase	1,482,730
2	Technical options and advisory services	992,000
3	Capacity Building	2,976,000
4	Facilitating access to credit(MFIs in self supply)	403,000
5	Self supply acceleration planning and implementation	993,488
6	Monitoring, reporting, communications and learning	396,800
7	Guidelines for self supply(first draft, review, final draft, publishing update, republishing	200,880
8	Research, advocacy and fundraising activities	248,000
9	National coordination, communication and learning	248,000
10	Program management	248,000
11	Supervision and monitoring	372,000
12	Support costs - office and vehicle running, staff costs	37,200
	Total	**8,598,098**

Table 25: Technical Assistance for Enhancing Communication

Area/Level	Activity	Cost (USD) (2014-2015
Capacity Development		
Federal	Translation/printing manual on Behavior and Social Change from Amharic into 4 major local languages.	44,909
	Training in Behavior and Social Change for regional ToT	29,940
Woreda	Cascaded training on Behavior and Social Change for Woreda ToTs	108,871
CLTSH Post Triggering Follow-up Support		
Community	Development of Post Triggering Community Conversation Guideline (to be incorporated as part of wider CC Manual)	5,444
	Translation and printing of Communication for Development Training Manual from Amharic into 4 major local languages	35,927
WASH Communication in Schools / SLTSH		
Schools	Translation/printing School WASH Promotion/SLTSH Guideline	34,567
	Translation/printing school WASH promotion PTA Guideline	32,661
	Development of teachers Resource book and Supplementary classroom support materials: books, videos.(material development specialist fees, workshops, field testing, translation, reproduction)	4,681
	Development/distribution of books, games for school clubs. (Material development specialist fees, workshops, field testing, translation, reproduction)	136,089
	Regional competitions and events to motivate schools to engage in WASH promotion activities	544,355
	Training school principals and teachers on use of guidelines and materials.	24,496
	Total	**1,001,939**

Annex 11: Scenario II Using Adjusted Regional Plans

A11.1 The rational for adjustment

There are considerable differences between the unit rates reported by regions and unit rates base on historical data as shown below.

Table A11.1: Comparison of Unit Rates for Rural Water Supply Schemes

No.	Scheme type	Average Regional unit rate (USD)	Historical unit rate (USD)	Average Regional per capita unit rate (USD)	Average per capita historical unit rate(USD)
1	Household Dug well with Rope Pump	616	403	103	67
2	Community Dug well with Rope Pump	1,135	1,135	15	15
3	Dug well with Hand pump	3,601	3,601	13	13
4	Spring at a spot	11,210	6,000	32	17
5	Spring with piped system	121,880	121,880	30	30
6	Shallow Borehole with Hand pump	54,504	10,000	109	20
7	Shallow Borehole with submersible pump	199,191	35,000	133	23
8	Deep Borehole with Piped Scheme	273,241	100,000	78	29
9	Multi Village piped scheme	1,586,499	175,000	317	35
10	RPS -Surface water with treatment	1,418,813	1,250,000	38	34
11	Cistern	42,039	7,500	420	75
12	Mini dam	610,809	1,150,000	17	31
13	Hafir Dam/Birka	302,743	40,000	80	80
14	Other	89,323	65,000	112	81

The financial requirement based on regional rates has increased the GTP endorsed financial requirement of about 1 billion USD five folds leading towards losing assurance on the part of MoFED and partners.

The analysis of the regional plan has shown disparity between regional rates and historical unit rates. Use of historical rates has brought the financial requirement to a reasonable range as demonstrated in this section.

A11.2 Adjustment of Beneficiaries per Scheme

In spite of the fact that regions were using higher beneficiary per scheme figures like 500 for dug wells and 3000 for boreholes in the past, they have now changed their mind set and started thinking of using lower beneficiary per scheme figures than what was used in the GTP. Though regions have used reduction factors that are less than 44%, it was decided to keep the reduction factors between 44% to 72% of the GTP proposed beneficiary per scheme figures for the purpose of becoming cost effective. The reduced beneficiary per scheme figures so determined are as indicated below.

Table A11.2: Adjusted Beneficiaries for Schemes based on information from Regions

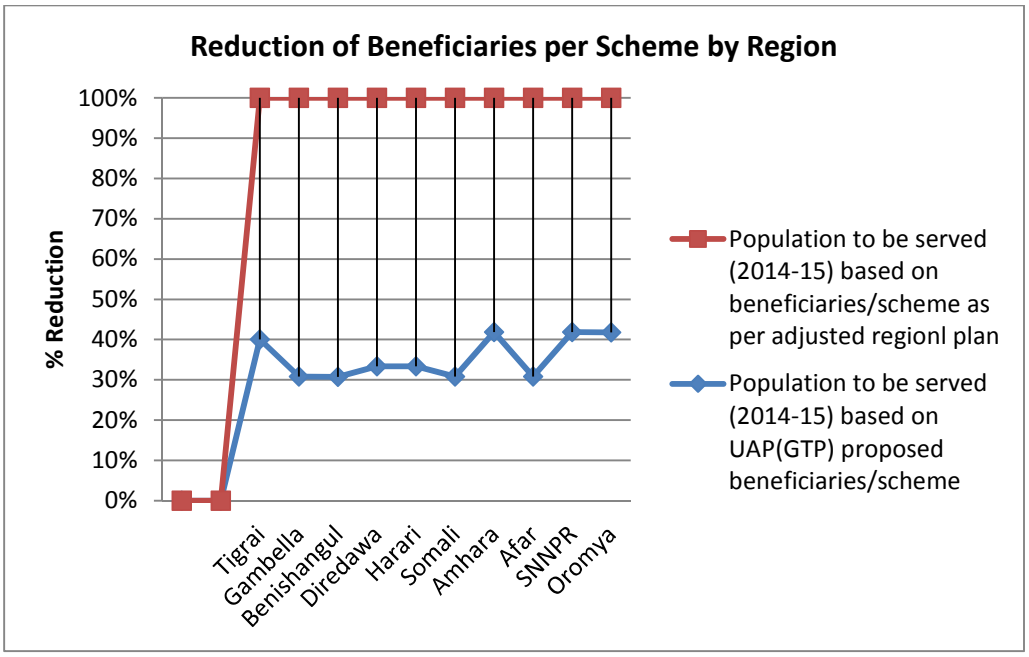
Region/ City	Population to be served (2014-15) based on UAP(GTP) proposed beneficiaries /scheme	Population to be served (2014-15) based on beneficiaries/ scheme adjusted by regions	Beneficiary/scheme reduction factor as used by Regions	Scheme	Household Dug well with Rope Pump	Community Dug well with Rope Pump	Dug well with Hand Pump	Capped Spring	Spring with piped system	Shallow Borehole with Hand pump	Shallow Borehole with submersible pump	Deep Borehole with Piped Scheme
				Proposed UAP beneficiary per scheme	6	75	270	350	4,000	500	1,500	3,500
					Beneficiaries per scheme by Region							
Tigray	1,480,260	2,216,050	67%		4	50	180	234	2,672	334	1,002	2,338
Gambella	70,584	158,590	45%		3	33	120	156	1,780	223	668	1,558
B. Gumuz	234,740	529,000	44%		3	33	120	155	1,775	222	666	1,553
Dire Dawa	34,312	68,500	50%		3	38	135	175	2,004	250	751	1,753
Harari	16,880	33,700	50%		3	38	135	175	2,004	250	751	1,753
Somali	603,899	1,356,900	45%		3	33	120	156	1,780	223	668	1,558
Amhara	5,921,090	8,233,999	72%		4	54	194	252	2,876	360	1,079	2,517
Afar	389,722	875,900	44%		3	33	120	156	1,780	222	667	1,557
SNNPR	7,328,385	10,172,970	72%		4	54	195	252	2,882	360	1,081	2,521
Oromia	10,462,830	14,574,000	72%		4	54	194	251	2,872	359	1,077	2,513

Region	Population to be served (2014-15) based on UAP (GTP) proposed beneficiaries/ scheme	Population to be served (2014-15) based on beneficiaries /scheme adjusted by regions	Beneficiary/ scheme by multiplying factor used by Regions	Scheme	Multi Village piped scheme	RPS - Surface water with treatment	Roof Water System	Rainwater harvesting	Pond	Cistern	Mini dam	Hafir Dam/ Birka	Other
				Proposed UAP beneficiary per scheme	5,000	37,000	100	8,600	100	100	37,000	500	800
					Beneficiaries per scheme by Region								
Tigrai	1,480,260	2,216,050	67%		3,340	24,715	67	5,745	67	67	24,715	334	534
Gambella	70,584	158,590	45%		2,225	16,468	45	3,828	45	45	16,468	223	356
B. Gumuz	234,740	529,000	44%		2,219	16,418	44	3,816	44	44	16,418	222	355

Region	Population to be served (2014-15) based on UAP (GTP) proposed beneficiaries/ scheme	Population to be served (2014-15) based on beneficiaries /scheme adjusted by regions	Beneficiary/ scheme by multiplying factor used by Regions	Scheme	Multi Village piped scheme	RPS - Surface water with treatment	Roof Water System	Rainwater harvesting	Pond	Cistern	Mini dam	Hafir Dam/ Birka	Other
				Proposed UAP beneficiary per scheme	**5,000**	**37,000**	**100**	**8,600**	**100**	**100**	**37,000**	**500**	**800**
Dire Dawa	34,312	68,500	50%		2,504	18,533	50	4,308	50	50	18,533	250	401
Harari	16,880	33,700	50%		2,504	18,533	50	4,308	50	50	18,533	250	401
Somali	603,899	1,356,900	45%		2,225	16,467	45	3,827	45	45	16,467	223	356
Amhara	5,921,090	8,233,999	72%		3,596	26,607	72	6,184	72	72	26,607	360	575
Afar	389,722	875,900	44%		2,225	16,463	44	3,826	44	44	16,463	222	356
SNNPR	7,328,385	10,172,970	72%		3,602	26,654	72	6,195	72	72	26,654	360	576
Oromia	10,462,830	14,574,000	72%		3,590	26,563	72	6,174	72	72	26,563	359	574

The percentage reduction factors of beneficiary per schemes for the adjusted regional plans as compared to the GTP proposed beneficiary per schemes is demonstrated using the figure below. In other words the number of schemes required to serve the un served population during the coming two years is escalated by factors ranging from 1.39 to 2.25 to take care of population density and avoid excessive fatigue that will lead to frequent breakage.

Figure A11.1: Comparison of Beneficiaries per Scheme by Region



A11.3 Rural Water Supply Schemes

Considering the above, the number of schemes with certain allowance required to achieve 98% access could be determined to be 88,698 for phase 1 as shown in table below. The schemes are made to incline towards the high tech schemes side to address the lowering of ground water table as a result of climate change.

Table A11.3: Number of Schemes by Region using Adjusted Regional Plan

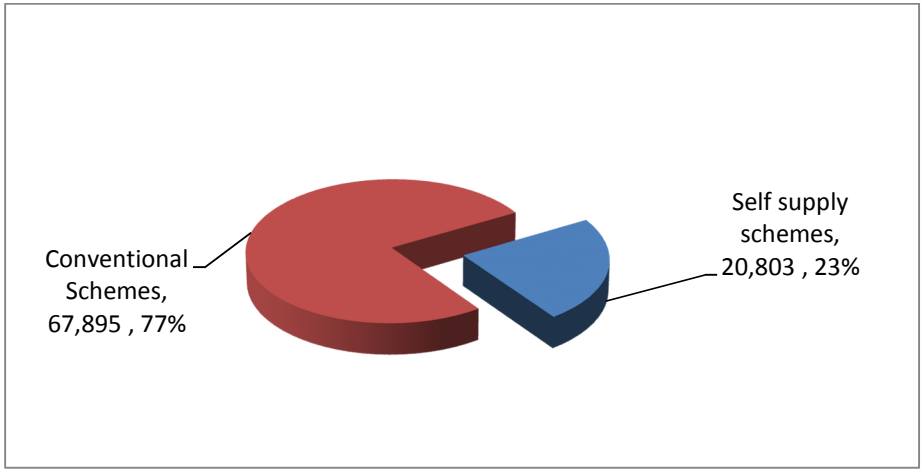
No.	Region/City	Schemes								
		Household Dug well with Rope Pump	Community Dug well with Rope Pump	Dug well with Hand Pump	Capped Spring	Spring with piped system	Shallow Borehole with Hand pump	Shallow Borehole with submersible pump	Deep Borehole with Piped Scheme	Multi Village piped scheme
1	Tigray	-	-	1,300	43	40	1,100	-	100	10
2	Gambella	-	-	87	16	1	230	-	3	-
3	B. Gumuz	-	-	350	30	-	675	25	14	-
4	Dire Dawa	-	-	-	-	-	-	5	5	1
5	Harari	-	-	-	2	2	5	4	3	1
6	Somali	-	-	-	-	-	-	193	175	10
7	Amhara	4,944	2,179	9,963	3,874	431	1,630	-	416	-
8	Afar	-	-	-	-	-	-	50	211	5
9	SNNPR	370	310	7,000	4,000	305	4,600	-	885	4
10	Oromya	5,000	8,000	17,000	6,540	600	4,053	-	699	15
	Total									
		10,314	10,489	35,700	14,505	1,379	12,293	277	2,511	46

No.	Region	No. of schemes								
		RPS -Surface water with treatment	Roof water System	Rainwater harvesting	Pond	Cistern	Mini dam	Hafir Dam/Birka	Others	Total
1	Tigray	10	-	-	-	-	10	-	-	2,613
2	Gambella	-	-	-	-	-	-	-	-	337
3	B. Gumuz	-	-	-	-	-	-	-	-	1,094
4	Dire Dawa	-	15	-	-	-	1	-	-	27
5	Harari	-	-	-	-	-	-	2	-	19

No.	Region	No. of schemes								
		RPS -Surface water with treatment	Roof water System	Rainwater harvesting	Pond	Cistern	Mini dam	Hafir Dam/Birka	Others	Total
6	Somali	8	325	-	-	500	-	40	8	1,259
7	Amhara	-	-	-	-	-	-	-	-	23,437
8	Afar	-	-	-	-	134	-	-	30	430
9	SNNPR	4	-	-	-	-	-	-	90	17,568
10	Oromia	2	-	5	-	-	-	-	-	41,914
	Total									-
		24	340	5	-	634	11	42	128	88,698

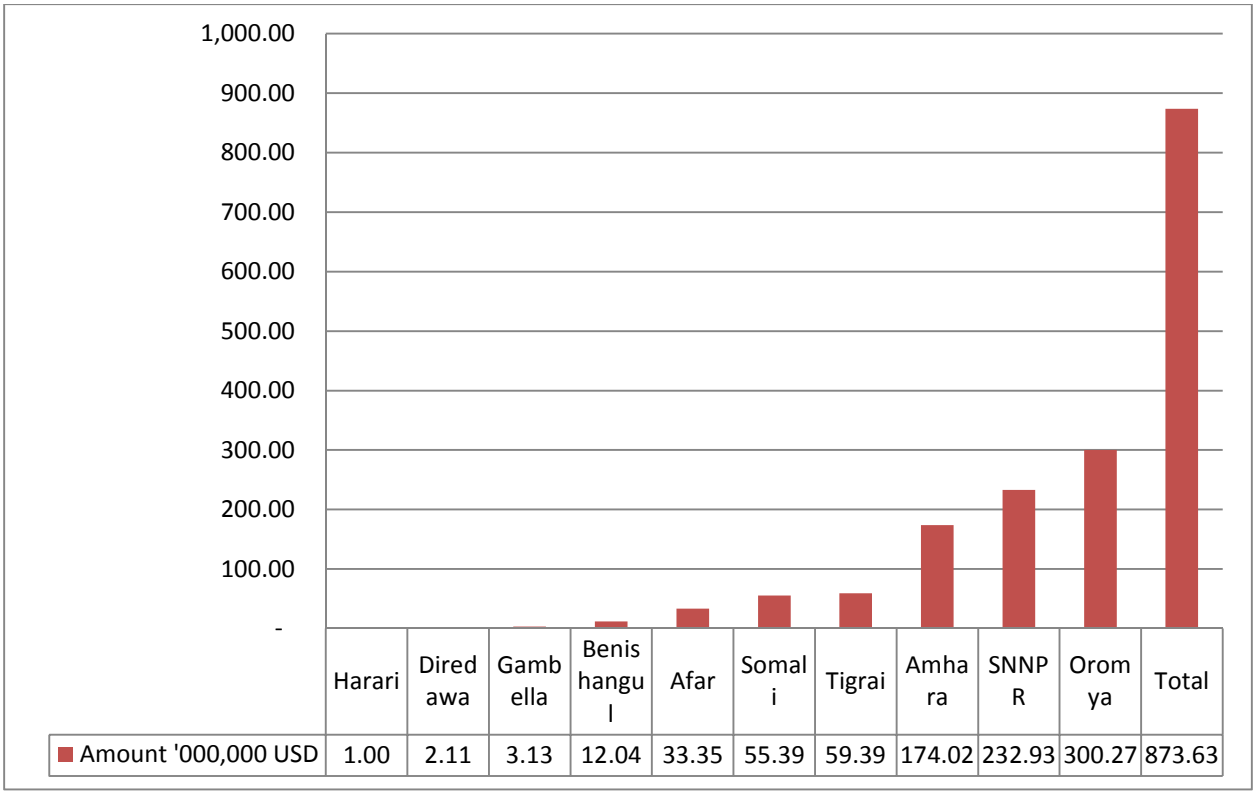
Of the 88,698 schemes, self supply and conventional schemes are 23% and 79% respectively as depicted in figure below.

Figure A11.2: Self Supply and Conventional Rural Water Supply Schemes



The breakdown of the Rural Water Supply financial requirement is given below.

Figure A11.4: Financial Requirement for RWSP construction by Region as per Adjusted Regional Plan ('000,000 USD)



	Harari	Dired awa	Gamb ella	Benis hangu l	Afar	Somal i	Tigrai	Amha ra	SNNP R	Orom ya	Total
Amount '000,000 USD	1.00	2.11	3.13	12.04	33.35	55.39	59.39	174.02	232.93	300.27	873.63

Details of the adjusted rural physical and financial plan by region are shown below.

Table A11.4: Physical and Financial Plan for Rural Water Supply using adjusted information from the regions

Region			Tigray		Amhara		Oromia	
Regional Factor			1.05		1		1	
No.	Scheme type	Historical Unit Rate(USD)	Regional adjusted Plan	Amount (USD)	Regional adjusted Plan	Amount (USD)	Regional adjusted Plan	Amount (USD)
1	Household Dug well with Rope Pump	403	-	-	4,944	1,992,432	5,000	2,015,000
2	Community Dug well with Rope Pump	1,135	-	-	2,179	2,472,797	8,000	9,078,648
3	Dug well with Hand Pump	3,601	1,300	4,915,254	9,963	35,875,954	17,000	61,215,620
4	Capped Spring	6,000	43	270,900	3,874	23,244,000	6,540	39,240,000
5	Spring with piped system	121,880	40	5,118,941	431	52,530,080	600	73,127,722
6	Shallow Borehole with Hand pump	10,000	1,100	11,550,000	1,630	16,300,000	4,053	40,530,000
7	Shallow Borehole with submersible pump	35,000	-	-	-	-	-	-
8	Deep Borehole with Piped Scheme	100,000	100	10,500,000	416	41,600,000	699	69,900,000
9	Multi Village piped scheme	175,000	10	1,837,500	-	-	15	2,625,000
10	RPS -Surface water with treatment	1,250,000	10	13,125,000	-	-	2	2,500,000
11	Roof water System	7,500	-	-	-	-	-	-

Region			Tigray		Amhara		Oromia	
Regional Factor			1.05		1		1	
No.	Scheme type	Historical Unit Rate(USD)	Regional adjusted Plan	Amount (USD)	Regional adjusted Plan	Amount (USD)	Regional adjusted Plan	Amount (USD)
12	Rainwater harvesting	610,809	-	-	-	-	5	37,500
13	Pond	-	-	-	-	-	-	-
14	Cistern	7,500	-	-	-	-	-	-
15	Mini dam	1,150,000	10	12,075,000	-	-	-	-
16	Hafir Dam/Birka	40,000	-	-	-	-	-	-
17	Others	65,000	-	-	-	-	-	-
	Total	**-**	**2,613**	**59,392,595**	**23,437**	**174,015,263**	**41,914**	**300,269,490**

Region			SNNP		Somali		Afar	
Regional Factor			1		1.25		1.25	
No.	Scheme type	Historical Unit Rate (USD)	Regional adjusted Plan	Amount (USD)	Regional adjusted Plan	Amount (USD)	Regional adjusted Plan	Amount (USD)
1	House Hold Dug well with Rope Pump	403	370	149,110	-	-	-	-
2	Community Dug well with Rope Pump	1,135	310	351,798	-	-	-	-
3	Dug well with Hand Pump	3,601	7,000	25,206,432	-	-	-	-

Region			SNNP		Somali		Afar	
Regional Factor			**1**		**1.25**		**1.25**	
No.	**Scheme type**	**Historical Unit Rate (USD)**	**Regional adjusted Plan**	**Amount (USD)**	**Regional adjusted Plan**	**Amount (USD)**	**Regional adjusted Plan**	**Amount (USD)**
4	Capped Spring	6,000	4,000	24,000,000	-	-	-	-
5	Spring with piped system	121,880	305	37,173,259	-	-	-	-
6	Shallow Borehole with Hand pump	10,000	4,600	46,000,000	-	-	-	-
7	Shallow Borehole with submersible pump	35,000	-	-	193	8,443,750	50	2,187,500
8	Deep Borehole with Piped Scheme	100,000	885	88,500,000	175	21,875,000	211	26,375,000
9	Multi Village piped scheme	175,000	4	700,000	10	2,187,500	5	1,093,750
10	RPS -Surface water with treatment	1,250,000	4	5,000,000	8	12,500,000	-	-
11	Roof water System	7,500	-	-	325	3,046,875	-	-
12	Rainwater harvesting	610,809	0	0	0	0	-	-
13	Pond	-	-	-	-	-	-	-
14	Cistern	7,500	-	-	500	4,687,500	134	1,256,250
15	Mini dam	1,150,000	-	-	-	-	-	-
16	Hafir Dam/Birka	40,000	-	-	40	2,000,000	-	-
17	Other	65,000	90	5,850,000	8	650,000	30	2,437,500
	Total		**17,568**	**232,930,598**	**1,259**	**55,390,625**	**430**	**33,350,000**

Region			Harari		Gambella		Benishangul	
Regional Factor			1		1.15		1.15	
No.	Scheme type	Historical Unit Rate (USD)	Regional adjusted Plan	Amount (USD)	Regional adjusted Plan	Amount(USD)	Regional adjusted Plan	Amount (USD)
1	Household Dug well with Rope Pump	403	-	-	-	-	-	-
2	Community Dug well with Rope Pump	1,135	-	-	-	-	-	-
3	Dug well with Hand Pump	3,601	-	-	87	313,280	350	1,449,370
4	Spring at a spot	6,000	2	12,000	16	96,000	30	207,000
5	Spring with piped system	121,880	2	243,759	1	121,880	-	-
6	Shallow Borehole with Hand pump	10,000	5	50,000	230	2,300,000	675	7,762,500
7	Shallow Borehole with submersible pump	35,000	4	140,000	-	-	25	1,006,250
8	Deep Borehole with Piped Scheme	100,000	3	300,000	3	300,000	14	1,610,000
9	Multi Village piped scheme	175,000	1	175,000	-	-	-	-
10	RPS -Surface water with treatment	1,250,000	-	-	-	-	-	-
11	Roof water Harvesting	7,500	-	-	-	-	-	-
12	Rainwater harvesting	610,809	0	0	-	-	-	-

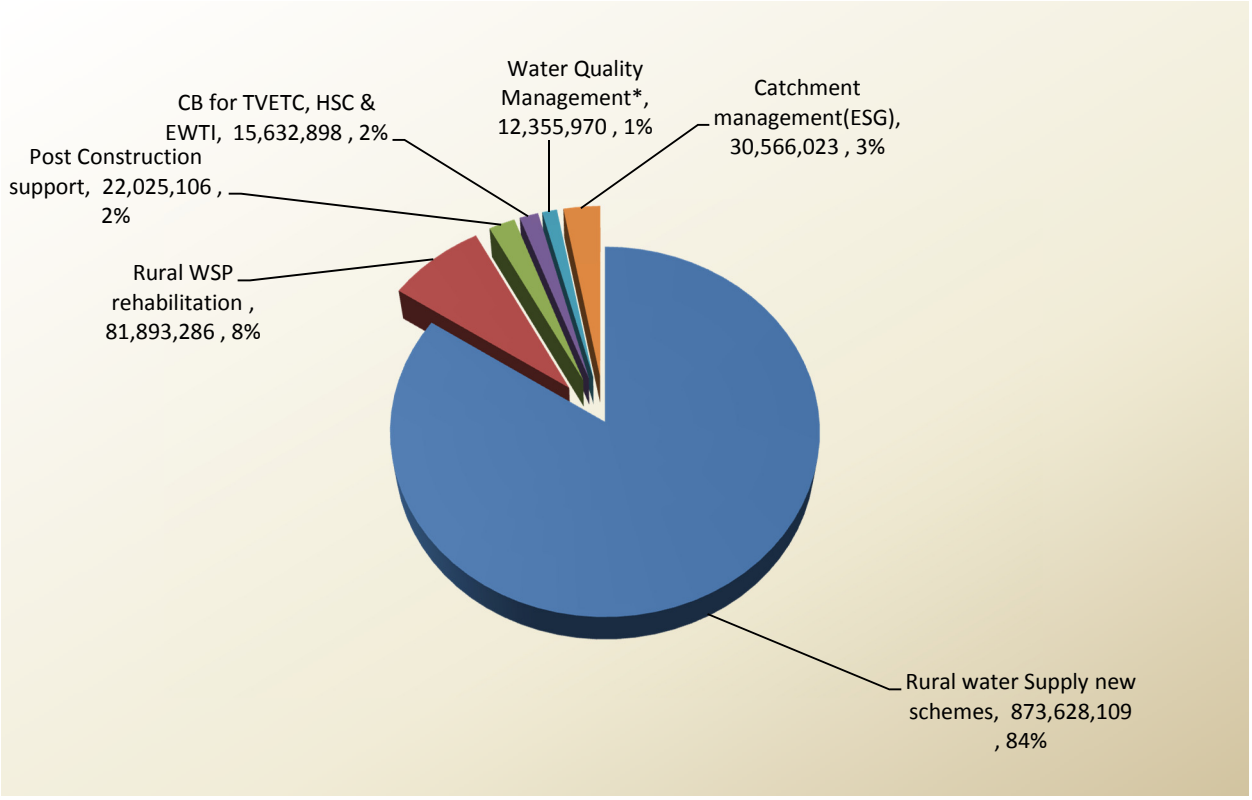
Region			Harari		Gambella		Benishangul	
Regional Factor			1		1.15		1.15	
No.	Scheme type	Historical Unit Rate (USD)	Regional adjusted Plan	Amount (USD)	Regional adjusted Plan	Amount(USD)	Regional adjusted Plan	Amount (USD)
13	Pond	-	-	-	-	-	-	-
14	Cistern	7,500	-	-	-	-	-	-
15	Mini dam	1,150,000	-	-	-	-	-	-
16	Hafir Dam/Birka	40,000	2	80,000	-	-	-	-
17	Other	65,000	-	-	-	-	-	-
	Total		**19**	**1,000,759**	**337**	**3,131,159**	**1,094**	**12,035,120**

Region		Dire Dawa		Total	
Regional Factor		1			
No.	**Scheme type**	**Regional adjusted Plan**	**Amount(USD)**	**Regional Adjusted Plan**	**Amount (USD)**
1	Household Dug well with Rope Pump	-	-	10,314	4,156,542
2	Community Dug well with Rope Pump	-	-	10,489	11,903,242
3	Dug well with Hand Pump	-	-	35,700	128,975,911
4	Spring at a spot	-	-	14,505	87,069,900
5	Spring with piped system	-	-	1,379	168,315,640
6	Shallow Borehole with Hand pump	-	-	12,293	124,492,500
7	Shallow Borehole with submersible pump	5	175,000	277	11,952,500
8	Deep Borehole with Piped Scheme	5	500,000	2,511	261,460,000
9	Multi Village piped scheme	1	175,000	46	8,793,750
10	RPS -Surface water with treatment	-	-	24	33,125,000
11	Roof water Harvesting	15	112,500	340	3,159,375
12	Rainwater harvesting	0	0	5	37,500
13	Pond	-	-	-	-
14	Cistern	-	-	634	5,943,750
15	Mini dam	1	1,150,000	11	13,225,000
16	Hafir Dam/Birka	-	-	42	2,080,000
17	Other	-	-	128	8,937,500
	Total	**27**	**2,112,500**	**88,698**	**873,628,109**

A11.4 Rural Water Supply Cost

Though regions have not included additional features that will contribute to reliable and sustainable services, this adjusted version is made to include the additional features adopted from the model outputs. This will increase the rural water supply cost to USD 1,036,101,393 the breakdown of which is shown in figure below

Figure A11.5: Rural Water Supply Financial Requirement including additional features (USD)



A11.5 Urban Water Supply and Sanitation

A11.5.1 Urban Water Supply

Study and design in 475 towns, new construction in 394 towns and rehabilitation in 365 towns will be undertaken at a cost of USD 680,344,660.

A11.5.2. Urban Sanitation

The following urban sanitation activities will be undertaken:

Table A11.5 Urban Sanitation activities

I.No	Activity	Details	Quantity
1	Wastewater Study and Design	16 towns	
2	Sludge drying bed Construction	47 towns	
3	Sewerage Rehabilitation and Expansion		
4	Study and design	1 town	
5	Implementation	1 town	
6	Vacuum trucks		70

A11.6 Program Management

The Program will be managed at regional and Federal level with a program management budget of USD 27,506,373 and 5,613,736 respectively as presented in detail below. NWCO will require USD 687,800 for coordination and conducting JTRs, MSFs, meetings, etc. Urban water supply and sanitation requires a budget of USD 853,754,000 as shown in the table below.

Table A11.6: Summary of Physical and Financial Plan prepared by Regions without Adjustment-Urban Water Supply & Sanitation

No.	Item	Tigray			Amhara			Oromia		
		2006	2007	Total	2006	2007	Total	2006	2007	Total
1	**Water Supply**									
	Study and Design	25	25	50	43	44	87	54	0	54
	New construction	15	14	29	44	45	89	47	54	101
	Rehabilitation and Expansion	10	9	19	6	7	13	66	154	220
	Total Water Supply	8,907,750	23,190,563	62,098,313	82,372,500	1,275,000	83,647,500	93,183,750	49,175,000	142,358,750
2	**Wastewater treatment**									
	Study and Design	1	1	2	1	1	2	3		3
	Sludge drying bed Construction	3	3	6	3	-	3		7	7
	Vacuum truck	3	3	6	3	-	3		7	7
	Total Wastewater treatment	281,398	281,398	562,795	244,898	317,898	562,795	109,500	571,428	680,928
3	Program management	1,656,274	455,262	2,111,536	2,459,120	1,639,413	4,098,533	4,159,271	2,772,847	6,932,118

No.	Item	SNNP			Gambela			Benishangul Gumuz		
		2006	2007	Total	2006	2007	Total	2006	2007	Total
1	**Water Supply**									
	Study and Design	65	69	134	1		1	16		16
	New construction	40	42	82	4		4	5		5
	Rehabilitation and expansion	26	27	53	2		2	11		11
	Total Water Supply	60,854,286	27,157,500	88,011,786	1,838,563	1,150,000	2,988,563	42,534,188		42,534,188
2	**Wastewater**									

No.	Item	SNNP			Gambela			Benishangul Gumuz		
		2006	2007	Total	2006	2007	Total	2006	2007	Total
	treatment									
	Study and Design	0	2	2		1	1		1	1
	Sludge drying bed Construction	0	4	4	2		2	2	-	2
	Vacuum truck	0	4	4	2		2	2	-	2
	Total Wastewater treatment		1,192,385	1,192,385	172,230	57,500	229,730	42,534,188	-	42,534,188
3	Program management	2,192,487	1,461,658	3,654,144	646,402	430,935	1,077,337	646,290	492,360	1,138,651

No.	Item	Somali			Harari			Afar		
		2006	2007	Total	2006	2007	Total	2006	2007	Total
1	**Water Supply**									
	Study and Design	42	35	77	0.5	0.4	1	2	2	4
	New construction	16	13	29			0	13	13	26
	Rehabilitation and Expansion	7	5	12	0.5	0.4	1	7	7	14
	Total Water Supply	48,523,438	2,312,500	50,835,938	431,250	345,000	776,250	7,070,438	12,635,438	19,705,875
2	**Wastewater treatment**									
	Study and Design	0	1	1		1	1	0	1	1
	Sludge drying bed Construction	2	0	2	1		1	2		2
	Procurement of Vacuum truck(	2	0	2	1		1	2		2
	Total wastewater treatment	163,265	36,500	199,765	81,633	36,500	118,133	73,000	163,265	236,265
3	Program management	1,359,116	906,077	2,265,193	375,854	250,569	626,423	869,304	579,536	**1,448,839**

No.	Item	Dire Dawa			Addis Ababa			Total national Level (USD)	Federal (MoWE)
		2006	2007	Total	2006	2007	Total		
1	**Water Supply**								
	Study and Design	25	25	50	0.4	0.4	0.8	475	

No.	Item	Dire Dawa			Addis Ababa			Total national Level (USD)	Federal (MoWE)
		2006	2007	Total	2006	2007	Total		
	New construction	15	14	29	-	-	-	394	
	Rehabilitation and Expansion	10	9	19	0.4	0.4	0.8	365	
	Total Sum Water Supply	15,000,000	-	15,000,000	131,676,499	40,711,000	172,387,499	680,344,660	
2	**Waste water treatment & Disposal**								
	Study and esign		1	1	0.4	0.3	0.7	16	
	Sludge dry bed Construction(No)	1		1	18	0.0	18	47	
	Sewerage Rehabilitation and Expansion								
	Study & design				0.71	0.29	1	1	
	Implementation				-	1	1	1	
	Vacuum truck(No)	1		1	40	0.3	40	70	
	Total Wastewater treatment	2,492,160	1,661,440	4,153,600	15,582,449	73,548,400	89,130,849	139,601,431	
3	Program management (%)	2,492,160	1,661,440	4,153,600				**27,506,373**	**5,613,736**
4	NWCO Operations							**687,800**	
	Region Total (USD)							847,452,464	
	Total Urban WSSP + Regional and Federal Program Management							**853,754,000**	

* Financing for sewerage rehabilitation and expansion is not yet secured

A11.7. Revised Rural and Peri-Urban Sanitation Plan

Minor revisions were made to prepare the regional plan presented in the following sections. Regions can compare their plan in this section with the updated SAP, a summary of which is included in the model output (Scenario 1) and make adjustments during implementation as required.

A11.8 Education Sector

A11.8.1 Software

The education sector will require USD 20,234,955 to create an enabling environment/demand and for Program support and M&E. The budget requirement by region are shown below

Table A11.7: Education Sector Software Budget Requirement by Region USD

No.	Region/City	Enabling Environment, demand creation (USD)	Program Support Cost (USD)	Monitoring and Evaluation	Total (USD)
1	Addis Ababa	-	284,400	85,000	369,400
2	Afar	-	504,200	350,000	854,200
3	Amhara	140,500	203,400	78,450	422,350
4	B. Gumuz	539,735	649,900	129,000	1,318,635
5	Dire Dawa	788,500	115,500	52,000	956,000
6	Gambela	385,250	460,400	70,000	915,650
7	Harari	17,800	-	51,800	69,600
8	Oromia	1,453,000	4,517,000	3,186,000	9,156,000
9	SNNPR	177,000	637,300	90,000	904,300
10	Somali	2,712,000	561,820	905,500	4,179,320
11	Tigray	308,000	236,600	280,000	824,600
12	Federal (MoE)	131,000	103,900	30,000	264,900
	Total	**6,652,785**	**8,274,420**	**5,307,750**	**20,234,955**

A11.8.2 Hardware

A total of USD 135,603,638 is required for the construction of 17,754 school latrines while a total of USD 91,543,800 is required for the construction of 12,512 school water schemes as indicated below.

Table A11.8: Education Sector Activities and Cost by Region/City

No.	Region/City	School Latrine facilities new construction and rehabilitate (all types)	Latrine Facilities Budget requirement (USD) Cost	School Water Schemes construction and rehabilitation (all types)	Total (USD)
1	Addis Ababa City	1,076	3,321,900	205	2,494,050
2	Afar	328	2,910,588	320	2,991,750
3	Amhara	350	5,347,500	300	1,290,000
4	B. Gumuz	328	4,195,200	569	4,514,600
5	Dire Dawa	16	147,900	40	300,000
6	Gambela	283	5,820,900	197	2,085,300
7	Harari	75	350,850	73	85,250
8	Oromia	6,508	39,499,200	4,800	31,849,400
9	SNNPR	5,851	42,482,400	3,958	28,794,000
10	Somali	500	6,880,000	450	4,218,750
11	Tigray	2,439	24,647,200	1,600	12,920,700
	National	17,754	135,603,638	12,512	91,543,800

A11.9. Health Sector

A11.9.1 Software

The health sector requires a total of USD 78,419,308 for creation of enabling environment and demand, Program support and M&E. The cost by region is shown below.

Table A11.9: Health Sector Software Cost by Region (USD)

No.	Region/City	Enabling Environment creation, Demand creation	Program Support	M&E	Total (USD)
1	Addis Ababa City	3,918,800	3,472,250	202,500	7,593,550
2	Afar	1,986,130	493,000	177,500	2,656,630
3	Amhara	2,022,020	1,107,100	250,000	3,379,120
4	B. Gumuz	9,406,095	785,500	125,000	10,316,595
5	Dire Dawa	549,060	146,700	79,000	774,760
6	Gambela	1,423,630	168,300	67,000	1,658,930
7	Harari	676,530	175,410	115,300	967,240
8	Oromia	13,320,973	7,050,000	8,779,860	29,150,833
9	SNNPR	2,353,500	1,250,600	2,180,000	5,784,100
10	Tigray	3,703,800	1,127,100	2,380,000	7,210,900
11	Somali	2,060,550	1,297,900	2,025,000	5,383,450
12	Federal (MoH)	2,481,000	887,200	175,000	3,543,200
	National	43,902,088	17,961,060	16,556,160	78,419,308

A11.9.2 Hardware

A total of USD 135,874,520 is required for construction of 15,947 health post/centre latrines while a total of USD 76,660,600 is required for the construction of 13,013 health post/centre water schemes as indicated below.

Table A11.10 Health Sector Hardware Financial Requirement by Region (2014-2015)

No.	Region/City	Latrines	Cost (USD)	Water Schemes	Cost (USD)
1	Addis Ababa City	211	3,592,500	25	22,500
2	Afar	816	4,678,500	40	309,000
3	Amhara	2,220	11,839,350	2,359	13,740,900
4	B. Gumuz	735	5,688,970	325	1,811,800
5	Dire Dawa	72	341,500	28	78,000
6	Gambela	82	858,100	63	309,000
7	Harari	60	606,000	32	67,500
8	Oromia	6,420	92,591,600	7,351	45,126,900
9	SNNPR	4,587	5,101,000	2,090	12,375,000
10	Somali	320	5,502,000	500	1,770,000
11	Tigray	424	5,075,000	200	1,050,000
	National	15,947	135,874,520	13,013	76,660,600

The budget requirement for Sanitation and Hygiene is USD 538,336,821 as shown below.

Table A11.11: Sanitation and Hygiene Costs (USD)

No.	Sector	Amount (USD)
1	**Education**	
1.1	Enabling Environment , Demand creation	6,652,785
1.2	Program Support	8,274,420
1.3	Monitoring & Evaluation	5,307,750
1.4	School WASH	227,147,438
	Sub-total	247,382,393
2	**Health Sector**	
2.1	Enabling Environment creation , Demand creation	43,902,088
2.2	Program Support	17,961,060
2.3	Monitoring & Evaluation	16,556,160
2.4	Health Posts/Centers WASH	212,535,120
	Sub-total	290,954,428
	Total Education + Health	**538,336,821**

A11.10. Program Cost

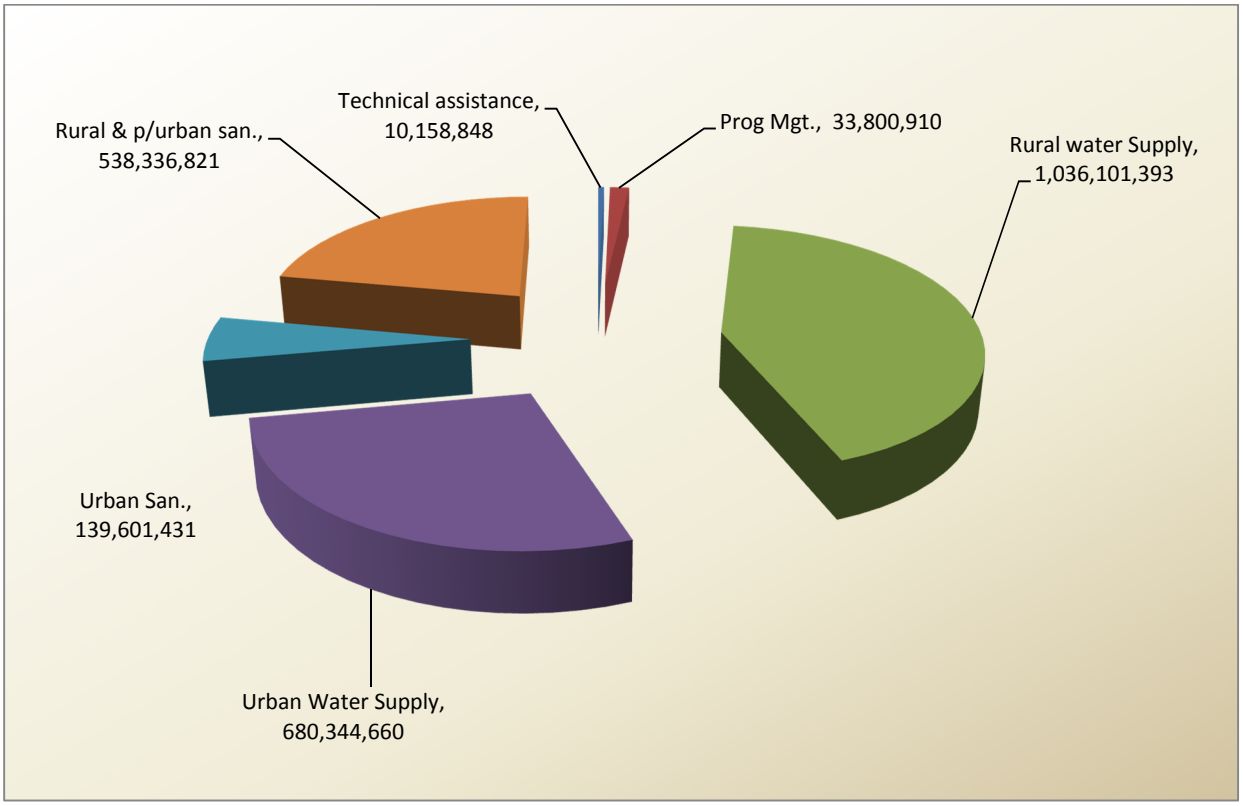
The total Program cost is USD **2,438,344,062** as shown below.

Table A11.12 Total Program Cost by Item

No.	Item	Financial Requirement (USD)	Financial Requirement (USD million)
1	**Technical Assistance**		
1.1	Pastoralist WASH TA	95,681	0.10
1.2	M&E TA	227,966	0.23
1.3	Supply Chain	235,163	0.24
1.4	Communication TA	1,001,940	1.00
2	**Program Management**	8,598,098	8.60
2.1	Program Management-Federal		
2.2	Program Management-Regional	5,613,736	6
2.3	NWCO Operation Budget	27,499,373	27
3	**Rural Water Supply**	687,800	
3.1	Rural water Supply new schemes		
3.2	Rural WSP rehabilitation	873,628,109	873,628
3.3	Post Construction support	81,893,286	81,893
3.4	CB for TVETC, HSC & EWTI	22,025,106	22,025
3.5	Water Quality Management	15,632,898	15,633
3.6	Catchment management (ESG)	12,355,970	12,356
4	**Urban Water Supply**	30,566,023	30,566
5	**Urban Sanitation**	680,344,660	1,036,101
6	**Rural and periurban sanitation**	139,601,431	140
6.1	Software		
6.2	Institutional WASH	98,654,263	99
	Total	439,682,558	440
		2,438,344,062	**2,438**

The budget requirement for major Program components is shown below.

Figure A11.6: Breakdown of adjusted Regional plan Financial Requirement by Major Components



A11.11: Funding by Source and Funding Gap

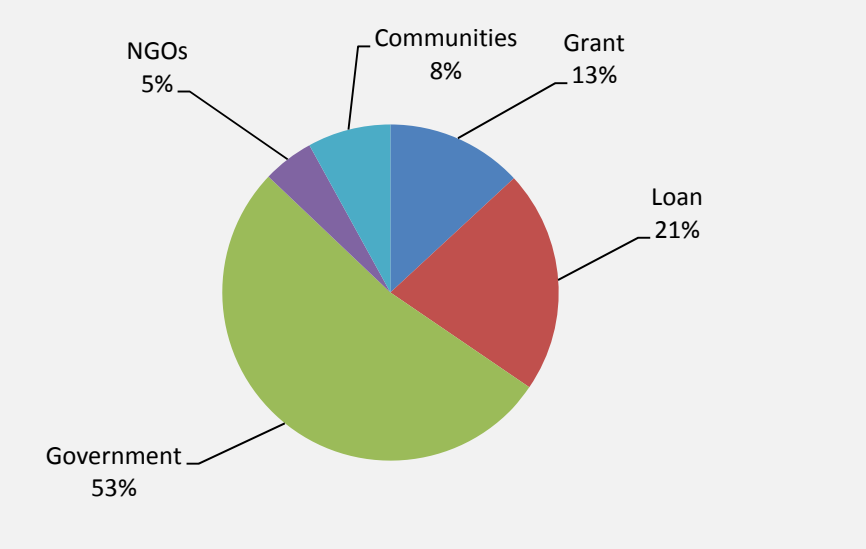
Using the adjusted regional plans, there is a funding gap of 33% as shown in the table below. The gap is significantly lower than the 67% gap if no adjustment is done to the regional plan.

Table A11.13: Indicative Program Funding by Source and Funding Gap – Phase I (USD million using adjusted Regional plans

Source	Amount	%
Grant	214	13.1%
Loan	350	21.4%
Government	858	52.5%
NGOs	80	4.9%
Communities	131	8%
Total	1,633	
Required Finance	2,438	
Available Finance	1,633	68%
Funding Gap	**805**	33%

Program funding by source is shown below.

Figure A11.7: Program Funding by Source



[1] The adjustment for rural and peri-urban sanitation is minor.

A11.12: Physical and Financial Comparisons of Scenario I and Scenario II

Despite the fact that Scenario II leans towards high technology in regard to rural water supply, the variation is within acceptable range. Details are shown in table below.

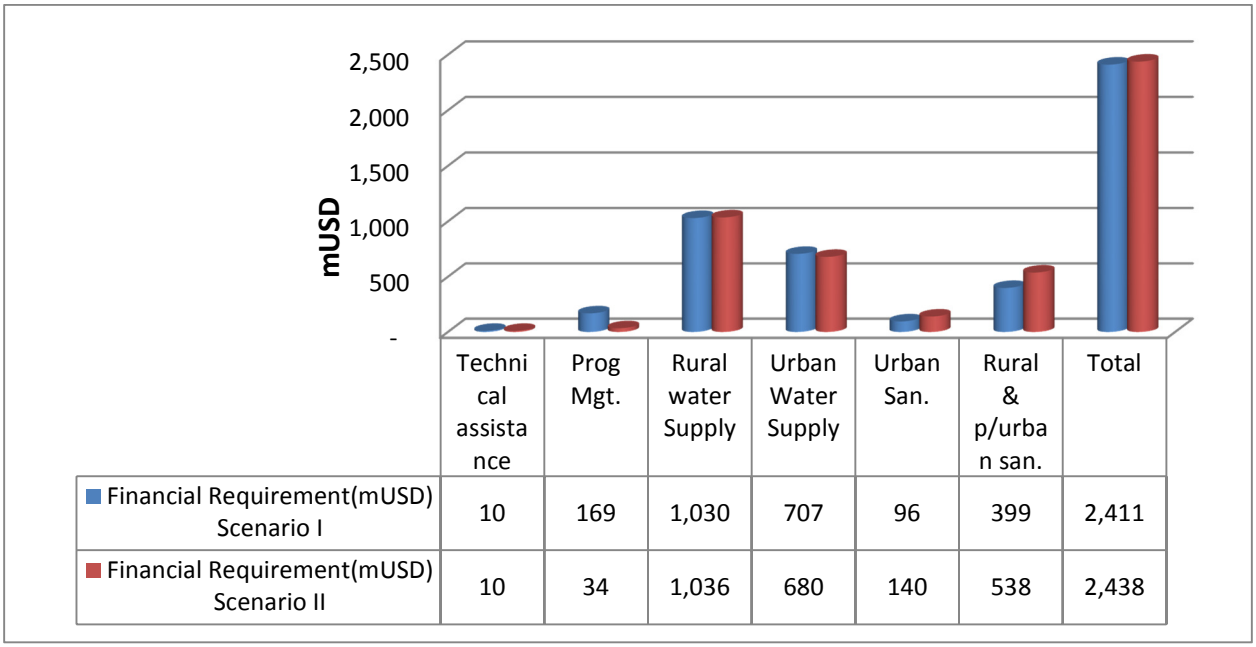
Table A11.14: Physical Plan Comparisons of Scenario I and Scenario II

I.No	Physical Plan	Scenario I	Scenario II
1	Rural Water Supply		
1.1	Conventional Schemes	55,865 schemes	67,895 schemes
1.2	Self supply schemes	42,529 schemes	20,803 schemes
1.3	Schemes to be rehabilitated	20,010 schemes	20,010 schemes
2	Urban Water Supply		
2.1	Study and design	For 777 towns	For 475 towns
2.2	New construction	For 777 towns	For 394 towns
2.3	New Rehabilitation		For 365 towns
3	Institutional WaSH		
3.1	School Water Supply facilities	In 22,985 schools	In 12,512 schools
3.2	School Sanitation facilities	6,122 new &15,122 to be rehabilitated	In 17,754 schools
3.3	Health Posts/ centers Water supply facilities	In 7,772 health posts/centers	In 13,013 health posts/centers
3.4	Health Sanitation	7,037 new & 7,141 to be rehabilitated	In 15,947 health posts/centers
3.5	Prison San facilities	350 new & 343 to be	

I.No	Physical Plan	Scenario I	Scenario II
		rehabilitated	
3.6	Public latrines	95new	
3.7	Communal Latrines	95 new & 408 to be rehabilitated	
4	Urban Sanitation		
4.1	Wastewater Study and Design	For Addis Ababa	For 16 towns
4.2	Sludge drying bed Construction	For towns with greater than 50,000 population	For 47 towns
4.3	Sewerage Rehabilitation and Expansion		
4.4	Study and design	For 1 town(Addis Ababa)	For 1 town(Addis Ababa)
4.5	Implementation	For 1 town(Addis Ababa)	For 1 town(Addis Ababa)
4.6	Vacuum trucks	88 Nos	70 Nos

The financial requirement of the two scenarios is also minor and allows the use of the two scenarios according to regional preferences in a complementary manner. See figure below for the comparison of the financial requirements of the two scenarios.

Figure A11.8: Comparison of Financial Requirement-Scenario I versus Scenario II



	Technical assistance	Prog Mgt.	Rural water Supply	Urban Water Supply	Urban San.	Rural & p/urban san.	Total
Financial Requirement(mUSD) Scenario I	10	169	1,030	707	96	399	2,411
Financial Requirement(mUSD) Scenario II	10	34	1,036	680	140	538	2,438

Part II - Regional Plans without Adjustment

Table A11.1A: Rural Water Supply Physical Plan by Year (Regional Version)

Schemes	Tigray		Afar		Amhara		Oromia		SNNP		Somali		Gambella		B. Gumuz		Harari		Dire Dawa		TOTAL	
	2013/14	2014/15	2013/14	2014/15	2013/14	2014/15	2013/14	2014/15	2013/14	2014/15	2013/14	2014/15	2013/14	2014/15	2013/14	2014/15	2013/14	2014/15	2013/14	2014/15	2013/14	2014/15
House Hold Dug well with Rope Pump					972	972	1,000	4,000	178	192							40	35			2,189	5,199
Community Dug well with Rope Pump			68	102	416	416	-	-	149	161							87	88			720	767
Dug well with Hand pump	696	695	54	81	6,802	6,801	16,891	16,000	2,402	2,602	300	300	41	29	100	180	25	25	-	-	27,311	26,713
Capped Spring	22	21			4,164	4,164	3,286	3,285	1,920	2,080	2	2	9	7	15	15	1	1	2	2	9,421	9,577
Spring with piped system	20	20	2	2	417	416	896	866	146	159	2	2		1			1	1	2	2	1,486	1,469
Shallow Borehole with hand pump	547	547	104	156	903	902	2,020	2,033	1,541	1,670			150	75	160	247		5	5		5,430	5,635
Shallow Borehole with submersible pump							-	-	-	-	45	30						5			45	35
Deep Borehole with Piped Scheme	55	55	90	136	208	208	897	867	425	460	40	30	-	2	-	-		6	5	7	1,720	1,771
Multi Village piped scheme	10	10	4	6			20	10	2	2	4	4					15	15	2	1	57	48
RPS from surface water with treatment	10	10					1	1	2	2	3	2									16	15
RWH (pond with treatment)							13	18											2	2	15	20
Pond																					-	-
Cistern/Birka			14	20							250	150									264	170
Mini Dam	17	16																		2	17	18
Hafir Dam/Sand Dam											18	10			-	-	1	1			19	11
Other			23	35					43	47	4	4									70	86
TOTAL	**1,377**	**1,374**	**359**	**538**	**13,882**	**13,879**	**25,024**	**27,080**	**6,808**	**7,375**	**668**	**534**	**200**	**114**	**275**	**442**	**170**	**182**	**18**	**16**	**48,780**	**51,534**

[1]Prepared by the regions

Table A11.2A: Cost of Rural Water Supply Schemes by Region for 2013/14[2] (USD) - Regional Version

Scheme	Tigray	Afar	Amhara	Oromia	SNNP	Somali	Gambella	B. Gumuz	Harari	Dire Dawa	TOTAL
House Hold Dug well with Rope Pump	-	-	510,510	525,000	46,663	-	-	-	46,000	-	1,128,173
Community Dug well with Rope Pump	-	85,000	218,602	-	242,396	-	-	-	108,750	-	654,748
Dug well with Hand Pump	2,925,906	156,060	21,446,138	48,814,990	10,097,404	2,366,700	161,587	262,743	87,500	-	86,319,028
Capped Spring	75,145	-	16,410,930	7,771,390	7,566,999	157,246	23,647	63,058	650	5,400	32,074,465
Spring with piped system	2,942,722	509,064	54,781,923	228,060,672	384,656	735,682	-	-	150,000	70,000	287,634,719
Shallow Borehole with hand pump	4,886,495	1,000,064	14,235,418	19,424,320	445,456,647	-	1,734,104	2,101,944		315,000	489,153,993
Shallow Borehole with submersible pump	-	-		-	-	23,646,870	-	-		-	23,646,870
Deep Borehole with Piped Scheme	17,341,040	25,311,780	49,185,497	252,274,074	156,258,539	25,223,360	-	-		1,200,000	526,794,290
Multi Village piped scheme	10,509,721	3,152,920	-	124,976,360	2,017,867	3,152,920	-	-	600,000	680,000	145,089,788
RPS from surface water with treatment	12,086,180	-	-	1,313,715	3,531,266	3,941,148	-	-		-	20,872,309
RWH (roof catchment)	-	-	-	8,406,619	-	-	-	-		-	8,406,619
Pond	-	-	-	-	-	-	-	-		-	-
Cistern/Birka	-	588,546	-	-	-	10,509,750	-	-		-	11,098,296
Mini Dam with sand filter	20,546,506	-	-	-	-	-	-	-		-	20,546,506
Hafir Dam/Sand Dam	-	-	-	-	-	14,188,140	-	-	60,000	-	14,248,140
Other	-	483,000	-	-	6,810,300	84,000	-	-			7,377,300
TOTAL	**71,313,715**	**31,286,434**	**156,789,017**	**691,567,140**	**632,412,738**	**84,005,816**	**1,919,338**	**2,427,746**	**1,052,900**	**2,270,400**	**1,675,045,244**

[2] Prepared by the regions

Table A11.3A: Financial Plan for Rural Water Supply Schemes by Region for 2014/15[3] in USD (Regional Version)

Scheme	Tigray	Afar	Amhara	Oromia	SNNP	Somali	Gambella	B. Gumuz	Harari	Dire Dawa	TOTAL
Household Dug well with Rope Pump	-	-	510,772	2,100,000	50,552	-	-	-	40,250	-	2,701,574
Community Dug well with Rope Pump	-	127,500	218,602	-	262,596	-	-	-	110,000	-	718,698
Dug well with Hand Pump	2,921,703	234,090	21,442,985	46,240,000	10,938,854	2,366,700	114,293	472,937	87,500	-	84,819,062
Capped Spring	71,729	-	16,410,930	7,769,025	8,197,583	157,246	18,392	39,405	650	5,400	32,670,360
Spring with piped system	2,942,722	509,064	54,650,552	220,424,712	416,710	735,682	4,204	-	150,000	70,000	279,903,646
Shallow Borehole with hand pump	4,886,495	1,500,096	14,219,653	19,549,328	482,578,035	-	867,052	3,244,877	125,000	-	526,970,535
Shallow Borehole with submersible pump	-	-	-	-	-	15,764,580	-	-	300,000	-	16,064,580
Deep Borehole with Piped Scheme	17,341,040	38,248,912	49,185,497	243,836,814	169,280,084	18,917,520	525,486	-	750,000	1,680,000	539,765,353
Multi Village piped scheme	10,509,721	4,729,380	-	62,488,180	2,186,022	3,152,920	-	-	600,000	340,000	84,006,224
RPS from surface water with treatment	12,086,180	-	-	1,313,715	3,825,539	2,627,432	-	-	-	-	19,852,865
RWH (roof catchment)	-	-	-	11,639,934	-	-	-	-	-	-	11,639,934
Cistern/Birka	-	840,780	-	-	-	6,305,850	-	-	-	-	7,146,630
Mini Dam with sand filter	19,337,888	-	-	-	-	-	-	-	-	26,000	19,363,888
Hafir Dam/Sand Dam	-	-	-	-	-	7,882,300	-	-	60,000	-	7,942,300
Other	-	735,000	-	-	7,377,824	84,000	-	-	-	-	8,196,824
TOTAL	**70,097,478**	**46,924,822**	**156,638,991**	**615,361,708**	**685,113,799**	**57,994,230**	**1,529,427**	**3,757,219**	**2,223,400**	**2,121,400**	**1,641,762,474**

[3]Prepared by the regions

Table A11.4A: Cost of Rural Water Supply Schemes by Region[3] (USD) - Regional Version - Phase I

Scheme	Tigray	Afar	Amhara	Oromia	SNNP	Somali	Gambella	B. Gumuz	Harari	Dire Dawa	TOTAL
House Hold Dug well with Rope Pump	-	-	1,021,282	2,625,000	97,215	-	-	-	86,250	-	3,829,747
Community Dug well with Rope Pump	-	212,500	437,204	-	504,992	-	-	-	218,750	-	1,373,447
Dug well with Hand Pump	5,847,609	390,150	42,889,122	95,054,990	21,036,259	4,733,400	275,880	735,681	175,000	-	171,138,091
Capped Spring	146,873	-	32,821,860	15,540,415	15,764,582	314,492	42,039	102,463	1,300	10,800	64,744,825
Spring with piped system	5,885,444	1,018,128	109,432,475	448,485,384	801,366	1,471,364	4,204	-	300,000	140,000	567,538,365
Shallow Borehole with hand pump	9,772,990	2,500,160	28,455,071	38,973,648	928,034,682	-	2,601,156	5,346,821	125,000	315,000	1,016,124,528
Shallow Borehole with submersible pump	-	-	-	-	-	39,411,450	-	-	300,000	-	39,711,450
Deep Borehole with Piped Scheme	34,682,081	63,560,692	98,370,993	496,110,888	325,538,623	44,140,880	525,486	-	750,000	2,880,000	1,066,559,643
Multi Village piped scheme	21,019,443	7,882,300	-	187,464,540	4,203,889	6,305,840	-	-	1,200,000	1,020,000	229,096,012
RPS from surface water with treatment	24,172,359	-	-	2,627,430	7,356,805	6,568,580	-	-	-	-	40,725,174
RWH (roof catchment)	-	-	-	20,046,553	-	-	-	-	-	-	20,046,553
Cistern/Birka	-	1,429,326	-	-	-	16,815,600	-	-	-	-	18,244,926
Mini Dam with sand filter	39,884,393	-	-	-	-	-	-	-	-	26,000	39,910,393
Hafir Dam/Sand Dam	-	-	-	-	-	22,070,440	-	-	120,000	-	22,190,440
Other	-	1,218,000	-	-	14,188,124	168,000	-	-	-	-	15,574,124
TOTAL	**141,411,193**	**78,211,256**	**313,428,008**	**1,306,928,848**	**1,317,526,537**	**142,000,046**	**3,448,765**	**6,184,965**	**3,276,300**	**4,391,800**	**3,316,807,718**

Table A11.5A: Unit Rate Used by Regions in Determining Financial Requirement

Scheme	Tigray	Afar	Amhara	Oromia	SNNP	Somali	Gambella	B. Gumuz	Harari	Dire Dawa
Household Dug well with Rope Pump			525	525	263				1,150	
Community Dug well with Rope Pump		1,250	525		1,629				1,250	
Dug well with Hand Pump	4,204	2,890	3,153	2,890	4,204	7,889	3,941	2,627	3,500	-
Capped Spring	3,416		3,941	2,365	3,941	78,623	2,627	2,627	650	2,700
Spring with piped system	147,136	254,532	131,372	254,532	2,627	367,841	4,204	4,204	150,000	35,000
Shallow Borehole with hand pump	8,933	9,616	15,765	9,616	289,017		11,561	13,137	25,000	63,000
Shallow Borehole with submersible pump					12,086	525,486			60,000	
Deep Borehole with Piped Scheme	315,292	281,242	236,469	281,242	367,840	630,584	262,743	-	125,000	240,000
Multi Village piped scheme	1,050,972	788,230		6,248,818	1,050,972	788,230			40,000	340,000
RPS from surface water with treatment	1,208,618			1,313,715	1,839,201	1,313,716				
RWH (roof water catchment)				646,663						
Pond										
Cistern/Birka		42,039				42,039				
Mini Dam with sand filter	1,208,618									13,000
Hafir Dam/Sand Dam						788,230	60,000		60,000	
Other		21,000			157,646	21,000				

Table A11.6A: Summary of Physical and Financial Plan prepared by Regions-Urban Water Supply and Sanitation

No.	Description	Tigray			Amhara			Oromia		
		2006	2007	Total	2006	2007	Total	2006	2007	Total
1	**Water Supply**									
	Study & Design	25	25	50	43	44	87	54	0	54
	New construction	15	14	29	44	45	89	47	54	101
	Rehabilitation and Expansion	10	9	19	6	7	13	66	154	220
	Total Water Supply	76,747,675	59,455,488	136,203,163	100,835,000	2,130,000	102,965,000	134,976,278	60,302,750	195,279,028
2	**Wastewater treatment**									
	Study & Design	4	2	6		-	1	3		3
	Sludge drying bed Construction	3	3	6	3	-	3		7	7
	Vacuum truck	3	3	6	3	-	3		7	7
	Total Wastewater treatment	260,398	296,898	557,295	2,475,000	2,511,500	4,986,500	109,500	1,001,000	1,110,500
3	Program management	1,656,274	455,262	2,111,536	2,459,120	1,639,413	4,098,533	4,159,271	2,772,847	6,932,118

No.	Description	SNNP			Gambela			Benishangul Gumuz		
		2006	2007	Total	2006	2007	Total	2006	2007	Total
1	**Water Supply**									
	Study & Design	65	69	134	1		1	16		16
	New construction	40	42	82	4		4	5		5
	Rehabilitation & Expansion	26	27	53	2		2	11		11
	Total Water Supply	95,486,429	39,091,000	134,577,429	3,793,563	1,150,000	4,943,563	42,534,188		42,534,188
2	**Wastewater treatment**									
	Study &Design	0	1	1		1	1		1	1
	Sludge drying bed Construction	0	4	4	2		2	2	-	2
	Vacuum truck	0	4	4	2		2	2	-	2
	Total Wastewater treatment		14,200,000	14,200,000	172,230	138,000	310,230	42,534,188	-	42,534,188

No.	Description	SNNP			Gambela			Benishangul Gumuz		
		2006	2007	Total	2006	2007	Total	2006	2007	Total
3	Program management	2,192,487	1,461,658	3,654,144	646,402	430,935	1,077,337	646,290	448,860	1,095,151

No.	Description	Somali			Harari			Afar		
		2006	2007	Total	2006	2007	Total	2006	2007	Total
1	**Water Supply**									
	Study & Design	42	35	77	0.5	0.4	1	2	2	4
	New construction	16	13	29			0	13	13	26
	Rehabilitation &Expansion(No)	7	5	12	0.5	0.4	1	7	7	14
	Total Water Supply	79,265,625	6,062,500	85,328,125	431,250	345,000	776,250	14,828,625	29,717,625	44,546,250
2	**Wastewater treatment**									
	Study & Design	0	1	1		1	1	0	1	1
	Sludge drying bed Construction	2	0	2	1		1	2		2
	Vacuum truck	2	0	2	1		1	2		2
	Total Wastewater treatment	1,650,000	36,500	1,686,500	179,133	36,500	215,633	73,000	363,265	436,265
3	Program management	1,359,116	906,077	2,265,193	375,854	250,569	626,423	869,304	579,536	1,448,839

No.	Description	Dire Dawa			Addis Ababa			Total (USD)	Federal (MoWE)
		2006	2007	Total	2006	2007	Total		
1	**Water Supply**								
	Study & Design	25	25	50	0.4	0.4	0.8	475	
	New construction	15	14	29	-	-	-	394	
	Rehabilitation and Expansion	10	9	19	0.4	0.4	0.8	365	
	Total Water Supply	28,500,000	-	28,500,000	131,676,499	40,711,000	172,387,499	948,040,494	
2	**Wastewater treatment**								
	Study & Design		1	1	0.4	0.3	0.7	18	
	Sludge drying bed Construction	1		1	18	0.0	18	47	
	Sewerage Rehabilitation								

No.	Description	Dire Dawa			Addis Ababa			Total (USD)	Federal (MoWE)
		2006	2007	Total	2006	2007	Total		
	and Expansion								
	Study & Design				0.71	0.29	1	1	
	Implementation				-	1	1	1	
	Vacuum truck	1		1	40	0.3	40	70	
	Total Wastewater treatment	2,492,160	1,661,440	4,153,600	15,582,449	73,548,400	89,130,849	159,321,558	
3	Program management	2,492,160	1,661,440	4,153,600				**27,462,873**	**5,613,736**
	Sub- Total							1,134,824,925	
	Grand Total Urban + Program Manage-ment at Regional and Federal levels							**1,140,438,662**	

* Funding for sewerage rehabilitation and expansion is not yet secured.

Table A11.7A: Cost of Regional Plans without Adjustments

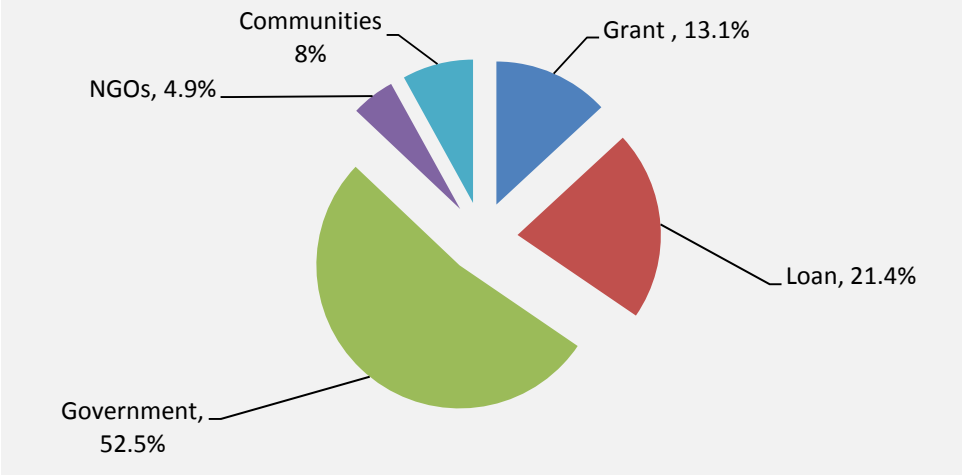
No.	Component	Cost (USD)
1	Rural Water Supply	3,316,807,718
2	Urban Water Supply	948,040,493
3	Urban Sanitation	159,321,558
4	Rural and Peri-urban Sanitation	
	Software	98,654,263
	Hardware (Institutional WASH)	439,682,558
5	Program Management- Regional & Federal	33,076,609
	Total	**4,995,583,200**

Table A11.8A: Indicative Program Funding by Source and Funding Gap – Phase I (USD million)

Source	Amount	%
Grant	214	13.1%
Loan	350	21.4%
Government	858	52.5%
NGOs	80	4.9%
Communities	131	8%
Total	**1,633**	
Required Finance	4,996	
Available Finance	1,633	33%
Funding Gap	**3,363**	**67%**

Program funding by source is shown in the figure below.

Figure A11.1A: Program Funding by Source



Annex 12: Annual Program Planning Calendar

JULY
DEVELOPMENT PARTNERS CONFIRM CONTRIBUTION FOR FOLLOWING FISCAL YEAR
AUGUST
• NWCO& WMUs complete national Resource Mapping and propose national CWA+ budget ceiling and GTP targets for the Regions • FWTT reviews – recommends to NWSC – NWSC approves • NWCO notifies Regions of national CWA+ budget ceilings and GTP targets • RWCO & WPMUs complete regional Resource Mapping • RWCO & WPMUs propose notional CWA+ budget ceiling and GTP targets for Towns, Special Zones and Woredas • RWSC endorses proposed ceilings & targets and RWCO notifies Towns, Special Zones and Woredas
SEPTEMBER
Towns, Special Zones & Woredas: • review anticipated resources and set priorities and interact with communities/kebeles re: potential programming • estimate feasible physical and financial level of activity, investments, and outputs and draft Core Plans • forward draft Core Plans to respective Development Committees for review and initial approval
OCTOBER
• Towns, Special Zones & Woredas forward draft Core Plans to RWCO for review and consolidation • RWCO consolidates Core Plans from Towns, Special Zones & Woredas and drafts Regional AWP • RWSC endorses draft plan and forwards to BoFEDs for initial approval and to NWCO for review and consolidation
NOVEMBER
• NWCO consolidates Regional Core Plans and completes National Core Plan • NWCO submits draft national Core Plan to FWTT for review and forwarding to NWSC • NWSC & Development Partners review draft National Core Plan – NWSC approves
DECEMBER
• NWCO notifies all levels that National Core Plan is approved. • Woreda/Towns/Special Zones fine tune AWPs • Woreda/Towns/Special Zones forward AWPs to WoFED (ZoFED) for information and to RWCO for review and consolidation
JANUARY
• RWCO consolidates AWP from woredas & special zones – drafts Regional AWP for RWSC endorsement • RWSC endorses and forwards to BoFEDs for information and to NWCO for review and consolidation • NWCO consolidates Regional AWPs and drafts National AWP – forwards to FWTT
FEBRUARY February 8th: NOTICATION OF ANNUAL SUBSIDY BUDGET & ISSUE OF BUDGET CALL
• NWTT reviews draft national AWP and recommends to NWSC • NWSC& Development Partners consult – and NWSC endorses composite Annual WaSH Plan and submit to MoFED for review and approval • NWCO notifies Regions/Woredas/Towns of the endorsement of the composite Annual WaSH Plan • Regions/Woredas/Towns submit composite Annual WaSH Plans to respective Councils for inclusion in Annual Development Plans
MARCH
March 22nd: Deadline for public bodies to submit budget requests