Climate Resilient WASH Program in Ethiopia

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MINISTRY OF WATER AND ENERGY

1. Water Supply and Sanitation in Ethiopia

Water Supply Sanitation and Hygiene (WASH) is critical to sustainable economic, social, and environmental development. It plays one of the most important roles of growth and poverty reduction aims of Ethiopia and serves as a vehicle to achieve national development plan.

Ethiopia has been known for promulgating various policies like Water Resources Management Policy, Agricultural and Rural Development Policy, Livestock and Fishery Policy, Health Policy, Urban Development Policy, Education Policy, Finance and Economic Cooperation Policy, Climate Change Policies, etc. since the 1990's.

As a translation of the policies, the country has also prepared PASDEP, 10 Years Strategic Plan, to report back to the SDGs in which WASH development has been among the core business areas. Specific to WASH implementation, Water Sector Development Strategy, Universal Access Plan, OWNP Phase II, CR WASH Sub Program, Signed MoU, Second Urban Sanitation Program along with WASH Implementation Framework and Program Operation Manual, Urban Wastewater Management Strategy among other national documents were prepared to accelerate WASH services provision to multitude Ethiopians.

2. Climate Variability/Change: The Achilles of Ethiopia's Progress

Given climate change, Ethiopia faces complex challenges of recurrent drought and dwindling ground and surface water resources, which makes adaptation measures essential. Ethiopia is an economic water scarce country, as it has not built sufficient water infrastructure. It will also become water stressed or face physical water scarcity due to high population growth and the increasing impact of climate change.

- 45% of population have no access to safe water supply.
- sanitation coverage is still not more than 28%.

Since 1991, in the past 26 years, Ethiopia has experienced eight drought episodes, five of them extending beyond one season, showing higher frequency and severity.

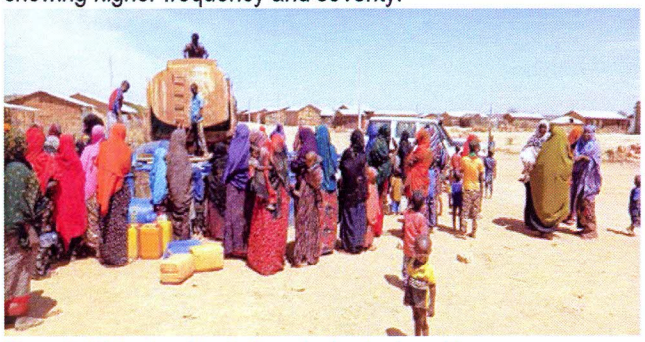


Figure 1: Water trucking in Somale due to drought

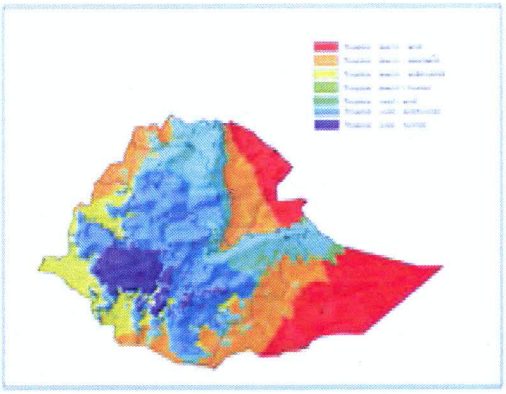


Figure 2: Agro Ecological Zones, Based on Global 16 Classification Systems

Arid and semi-arid areas cover more than 40% of Ethiopia's territory and contain some of the poorest and hardest-to-reach communities. Almost all these arid areas are pastoralists, and the semi-arid areas are semi-pastoralists practicing mixed farming. These communities had lost their main income because of the recent drought happened in the country.

The problems affecting arid and semi-arid areas are different from the rest of the country and require a new approach to reduce vulnerability. The key challenges are:

- unreliable and insufficient water supply sources.
- inadequate water supply coverage and poor access.
- loss of livestock & livelihood due to lack of water.
- poor water quality & prevalence of water-borne diseases
- weak capacity of water institutions for O & M.

3. Major Challenges of Water Supply System

Despite progress, the most critical challenges in water supply service include. ones include:

- occurrence of frequent drought exacerbated by CC;
- significant gap (leaving behind 40 million people);
- enhancing quality, safety, and reliability of existing facilities.
- adequate operation and maintenance (23% non-functionality)
- matching the new investment with rapidly growing population.

Figure 3: Cattle dying due to drought (lack of Water and fodder)

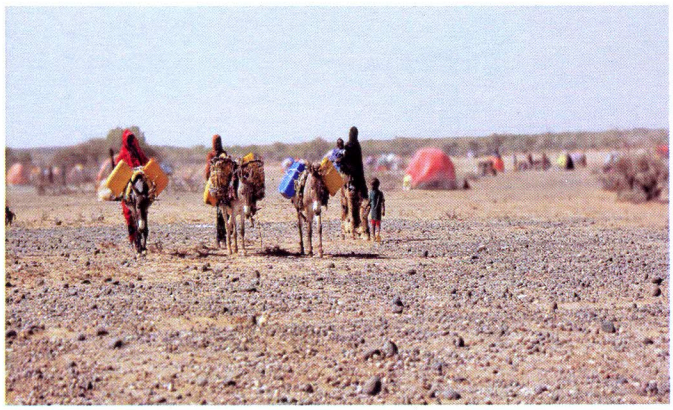


Figure 4: People in arid area traveling long distance in search of water.

Ethiopia has been affected by recurrent drought since 1972 which claimed the lives of 1.2 million people and millions of cattle. The number rose to 13.2 million in 2003 and 260,000 in 2006. At present, the drought & CC effect has brought significant loss of economy and death for cattle.

4. A New Approach - Climate Resilient WASH

Key principles of this new approach with complete & comprehensive investment to provide adequate & reliable access

- **Reliable sources of water**. Explore deep ground water or surface water that will not run out during drought.
- **Use of modern, cost-effective techniques:** using Topography, Remote Sensing, DTM, GIS,
- **New and modern technologies for reuse and capture of water** (de-fluoridation, desalination, treatment) to reduce water loss.
- **Water for both domestic and livestock consumption.**
- **Rural Water Utilities** – 'resilient' water schemes require a robust management structure.
- **Capacity Development:** provide resilient water supply to communities, and then incorporate S& H development.

5. CR – WASH Objective

The **development objective** is to improve the health and well-being of CC and drought-affected rural and urban areas by increasing access to WASH for domestic and livestock consumption and the adoption of good hygiene practices in an equitable and sustainable manner.

6. Key Actions for Success

Figure 3: Hydrogeologic difficulties index

With the proper implementation, the sector can address the challenges stated above through:

- Integrating CR-WASH with water safety & catchment management.
- Linking CR-WASH with livelihood diversification such as livestock and agro-industries development.
- Leveraging economies of scale (RPS).

- Creating CR- WASH culture through training and research.
- Establishing post-construction support units.
- Transitioning to unique management of Schemes.

7. Principles, Pillars, and Methodology

Guiding Principles: The OWNP guiding principles are:

- **Integration** with stakeholders.
- **Alignment** of programs and partners.
- **Harmonization** of partners; and
- **Partnership** with all possible stakeholders.

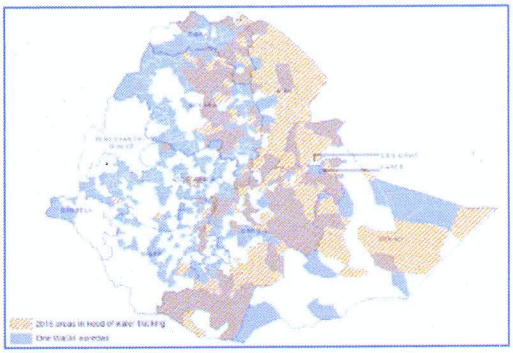


Figure 2: Water trucking needy areas WASH Needs vs. CWA Woredas

Program Pillars: The three overarching pillars include:

1. Creating enabling environment and good governance.
2. Maximizing availability & efficient use of resources; and
3. CD for improved delivery of WASH services at all levels.

The program will seek to improve aid-effectiveness and promote institutional reforms.

8. Methodology/Approach

The program activities will be implemented as Engineering, Procurement and Construction Model through mobilization of various institutions and organizations in the country and beyond.

GIS and RS at high resolution; Digital satellite data will be procured & used for analysis. High resolution Digital Terrain Model (DTM), climate, population, existing water sources and quality data, and WASH facility data will be developed.

Figure 5: People waiting for longer time to fetch from available source

Cost of Investment for CR – WASH Program:

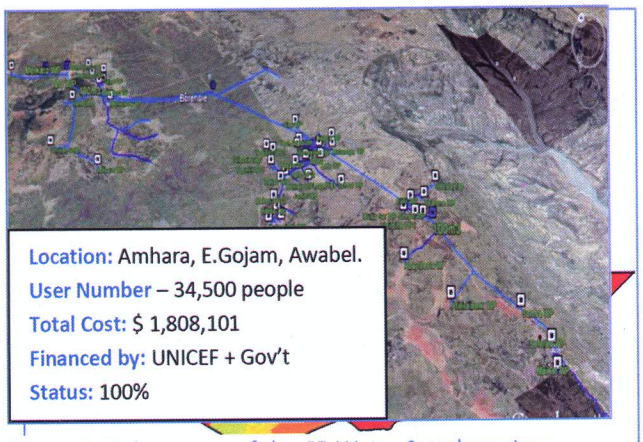


Figure 6: A show case of the CR Water Supply sector

Significant amount of money was spent for water tracking in the drought-affected area especially from north-east to south-west for temporary solutions. More life-saving results would have been gained had investments been made on modern technologies.

The CR - WASH program will promote equity and sustainability. And will last eight years and will be implemented in two phases.

Program Organization: Given the existing National WASH Steering Committee in the One WASH, other government ministries and development partners has joined the committee for direct & indirect involvement.

Program Financing: Financing of the program will come from Government and development partners who are expected to increase their support to OWNP's Consolidated Account.

The financing requirement is estimated to be **$10 billion for Phase I** (2018-2020), **$16 billion for Phase II** (2021-2025),and **$17 billion for Phase III** totaling approximately **$33 billion** for achieving the Sustainable Development Goals in WASH.

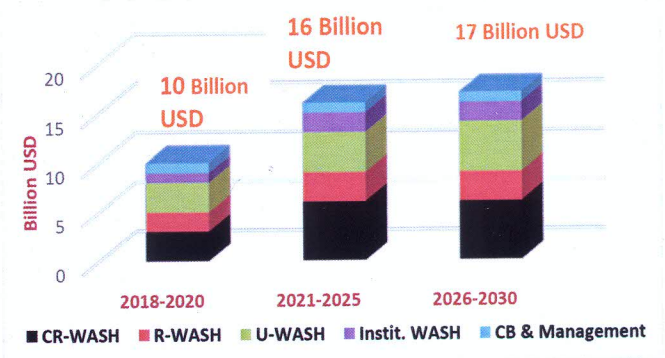


Figure 5: budget distribution during the three phases in mUSD

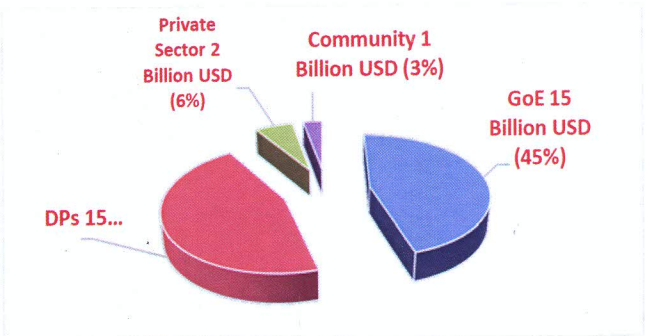
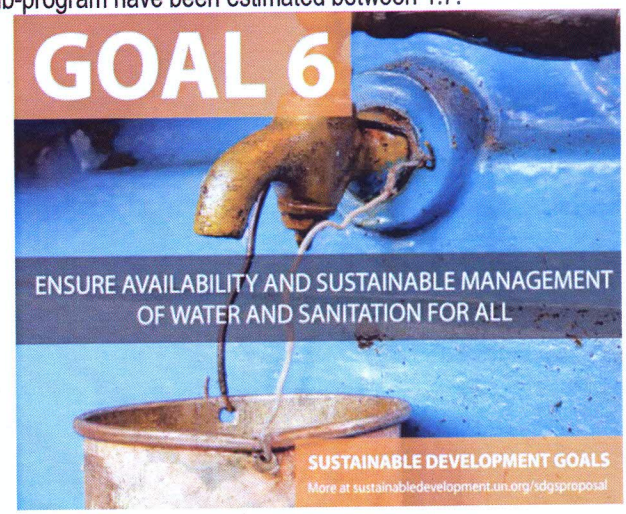


Figure 6: Proposed funding contributions for CR-WASH.

9. Getting Value for Money

Increased resilience will mean reduced emergency spending and more sustainable progress to Ethiopia's development goals. For instance, in response to the 2015/16 El Nino event alone, the international community invested US$121.4 million in emergency water supply through water tracking.

The overall benefits of resilient water and sanitation under this sub-program have been estimated between 1.7.



No Sustainable Development Achieved without Achieving Water Goal and Targets.

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Drought Case in Borena, Oromia Region

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