

# Financing universal, safe and sustainable water services in Ethiopia



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Millennium Water Alliance - Ethiopia

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Position paper 4 of 5



# Position Paper 4: Financing universal, safe and sustainable water services in Ethiopia

## Featured Ideas.

When considering how to finance sustainable water services, it is important to take into account the following:

- Current levels of investment in water services are relatively low and dominated by external assistance from grants and low-cost loans.
- A projected six-fold increase in levels of financing, from approximately \$500M to \$3B, is needed to achieve the Sustainable Development Goals (SDGs).
- Good examples of synergy between external assistance and domestic investment practices by regional governments exist, but these generally focus on capital investments to extend services.
- Rural water supply expenditure is often unbalanced, with insufficient resource allocation to operations and maintenance. This impacts quality and service sustainability. The 'contract' between development partners funding new investments and users and government funding ongoing service delivery is failing.
- The case for domestic, public financing linked to growing economies and tax revenues should be a major focus as the water sector is unusually vulnerable to potential downturns in external assistance.
- There is a risk that growing requirements for investment in urban or drought-resilient water services will draw resources from rural areas. While there are commitments of major, new government investments (\$500M per year), these are slated for higher capital investments in the most drought-prone lowlands.



**This is the fourth position paper in a series of five produced through the 2017-2019 Millennium Water Alliance Bridge Program in Ethiopia. It is made possible through support from the Conrad N. Hilton Foundation.**



# Introduction.

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## Background on the Water Sector

Ethiopia aims to attain lower-middle income status by 2025 and financing an expanded water sector is crucial to achieve this. Since 2006-2007, Ethiopia has demonstrated strong economic expansion with average growth of 10%. The country's population is estimated at around 110 million people and, according to the United Nations Population Division, is expected to rise to nearly 140 million by 2030<sup>1</sup>.

In 2015, Ethiopia announced that it had successfully reached the Millennium Development Goal target 7C on access to drinking water. This was an enormous achievement for Ethiopia and reflective of improved water sector management. The transition to SDG targets, however, requires a shift: an increased focus on water quality, affordability, equity and consistent availability of water. Reaching the most marginalised communities and providing higher quality water services will require significant investment and political will. For rural populations, Ethiopia aims to provide every citizen with a minimum of 15 litres/capita/day within a distance of 1.5km by 2020. It also aims to provide 25 litres/capita/day within a distance of 1km for 85% of the rural population. Of this, 20% should be provided by a rural piped supply<sup>2</sup>. These guiding policies for the sector are set out in the second phase of the Growth and Transformation Plan.

With these in focus, there are growing concerns around the functionality and sustainability of water supply systems. As Ethiopia expands its water supply, the challenges of sustainability will only increase. New sources of water, particularly in arid and semi-arid areas, will be more expensive to maintain

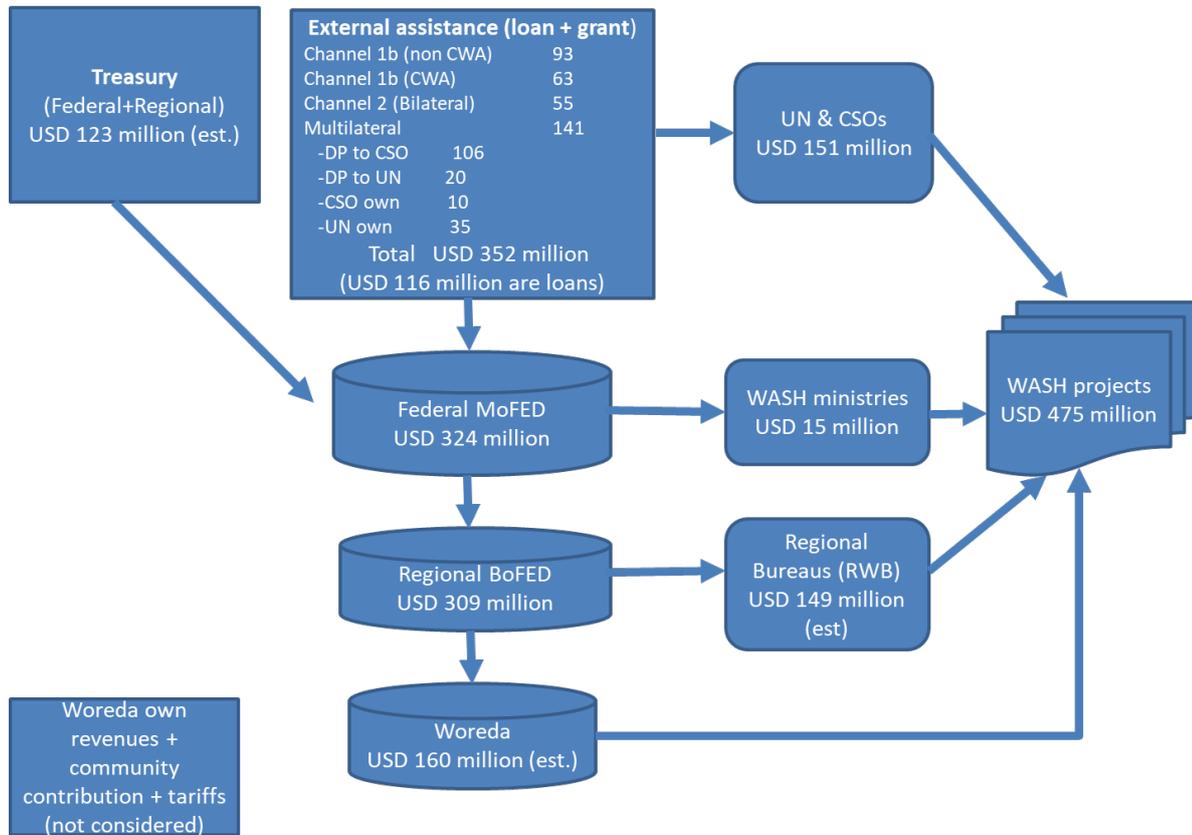
## Current WASH Investments

In 2016, the Water Sector Working Group, with support from UNICEF, estimated the size of the water, sanitation and hygiene (WASH) sector in Ethiopia as \$475M<sup>3</sup>. This estimate excludes some investments where data is lacking; particularly those from woreda (district) revenues, community contributions and user tariffs. About a quarter of the overall investment, \$123M, was from the Ethiopia treasury and originated from taxes collected by the state. An additional quarter, \$116M, came from external assistance in the form of loans. These will require taxes to be collected and used for future repayment. About half, or \$236M, was provided as external assistance in the form of grants. Total external assistance (grants and loans) was \$352M, or 74% of the total. This total reinforces the substantial role of development partners in WASH.

Using ballpark figures and simple calculations, this is equivalent to about \$4.75 invested per capita, per year or \$475,000 per woreda. (Assumed: 100 million people living within 1,000 woredas, or districts.) In reality, however, there is substantial variation between regions. Higher investments per capita are seen in the capital, Addis Ababa, and in lowland regions like Afar, Benishangul Gumuz and Gambella, where unit costs and poverty levels are elevated. Expenditure in Amhara, where the Millennium Water Alliance (MWA) program is focused, is close to the national average.

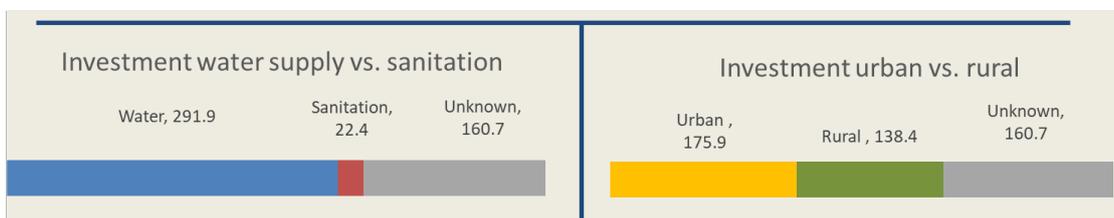
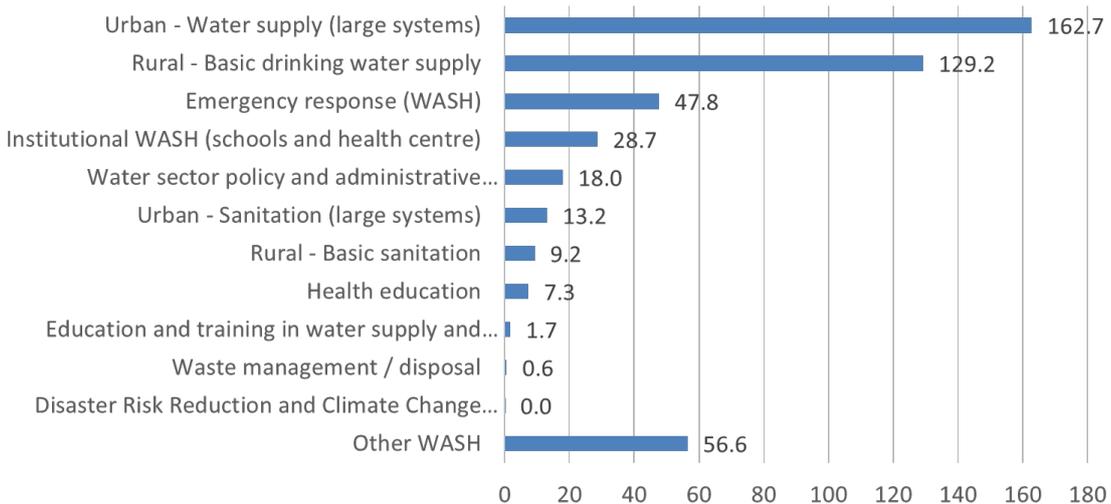
The bulk of investments are made at the regional and woreda levels which reflects decentralised state practices. Roughly one-third of expenditure (\$149M and \$160M, respectively) are made in each of these levels. The remaining one-third is primarily spent by the United Nations and NGOs. Relatively limited direct expenditures are made at the federal level. In 2016, about one-quarter of the total WASH sector investments were made for rural water supply. This paper focuses on rural water supply investments and future funding for WASH.

**Figure 1: Source and Flow of Funds to Water Supply and Sanitation Sector during 2016<sup>4</sup>**



**Note:** BoFEC (Bureau of Economic Cooperation); MoFEC (Ministry of Economic Cooperation); CSO (Civil Society Organizations); CWA (Consolidated WASH Account)

**Figure 2: Utilization of the Funds in Ethiopia during 2016 by Sub-Sector (\$ millions )<sup>5</sup>**



## Funding Needs

The WASH sector requires significant additional funding to meet ambitious targets as current levels of investment are below 1% of Gross Domestic Product (GDP) (see Table 1). Higher levels of investment are necessary to improve services; while a six-fold increase in expenditures is estimated as needed to achieve the Sustainable Development Goal targets by 2030. The most detailed projections made to date, by UNICEF using the SDG costing tool, suggest that \$3.2B needs to be invested per year in Ethiopia. This is roughly equivalent to \$3.2M per woreda, or \$32 per capita, per year. The majority of these resources will be required for the water sector rather than for sanitation.

**Table 1 – Estimated Costs from Plans and Organizations to Achieve SDGs<sup>12</sup>**

Criteria	Amount Needed (\$ millions /year)	Funding Gap (\$ millions /year)	% of Gap	% of GDP Needed
One WASH National Program Phase I (\$2.41B in 7 years) <sup>6</sup>	344	No funding gap <sup>7</sup>	0%	0.51%
OWNP Phase II (\$5.9B in 3 years) <sup>8</sup>	1,978	\$949 <sup>9</sup>	50%	2.97%
World Bank (achieving SDGs in SSA would require three times the amount needed for MDG targets <sup>10</sup> )	~2,000	\$1,525	76%	3%
World Bank (Africa Infrastructure Country Diagnostics) recommends 3.5% of GDP investment per year <sup>11</sup>	2,339	\$1,764	75%	3.5%
SDG costing tool (preliminary analysis)	~3,200	2,725	85%	4.8%

## Cost Components

Cost components can be broadly divided into five categories -

- **Capital Expenditures:** cost of construction of new water schemes.
- **Operational Expenditures:** minor maintenance, minor spare parts, associated costs with managing scheme such as tap attendant salaries and committee meetings.
- **Capital Maintenance Expenditures:** renewal and replacement of major parts such as pumps and well heads and increasing well depth.
- **Direct Support:** monitoring, evaluation, supervision, planning, coordination and reporting.
- **Indirect Support:** costs associated with the enabling environment.

## Financing Imbalances

While the sector clearly needs additional resources, the type of financing provided is also important. Generally, the sector's resources are skewed towards capital expenditures. There is an implicit understanding that government and communities will support operational expenditures, but in practice these areas are meaningfully underfunded.

By example, in the three woredas supported by MWA in Amhara region, *Operational Expenditures* (OpEx) spending was estimated as "close to zero" by the woreda government. Similarly, direct support costs were found to be only 60% of the amount required to adequately fulfil direct support activities<sup>13</sup>. These are the resources required for the woreda and zonal water offices to support communities and include fuel, vehicle costs and daily allowances to visit and maintain water schemes.

## Taxes, Tariffs and Transfers

Broadly speaking, resources for the water sector can come from three major sources:

- **Taxes:** paid by domestic taxpayers to government institutions, which then invest the money in the water sector.
- **Tariffs:** paid directly by users of water services.
- **Transfers:** delivered by philanthropic organizations or international donors<sup>14</sup>.

In Ethiopia, as noted, the water sector receives most of its funding (74% in 2016) from transfers, or external assistance. To meet the SDG funding needs, significant additional resources from taxes, tariffs or other innovative sources are needed.

## Financing Channels

Ethiopia has multiple financing channels and stand-alone WASH projects which creates a fragmented funding landscape, as shown in Figure 1. In recent years there have been positive developments as new government donors join the Consolidated WASH Account (CWA)<sup>15</sup>.

The fragmentation makes funding transparency a challenge. It also becomes problematic to link funding to a particular service delivery model. As seen in Figure 2, there is even uncertainty over how available funding is divided between water and sanitation.

It should be noted that Ethiopia is relatively unusual in that it retains donor confidence and can be funded directly through the government system. This is not the case for many other countries in Sub-Saharan Africa that do not receive significant funding through government systems. Ethiopia is also one of the few countries to have a national plan this comprehensive and a funding model through the One WASH National Plan and the CWA.

## Service Delivery Models

The water sector is also fragmented by a number of service delivery and management models. On one end of the model spectrum, there is self-supply where households make their own investments in developing a water source. At the other end are more formalized approaches. For example, with the support of Oxfam and UNICEF, Ethiopia has begun to establish rural public water utilities to manage complex multi-village water supply schemes. In the middle, there are community managed projects operated by either volunteer WASH community organizations or by NGOs directly.

## Consolidated WASH Account (CWA)

The CWA covers 382 woredas and 144 small and medium towns<sup>16</sup>. The purpose of the CWA is to harmonise the various donor interventions within the WASH sector. The CWA is funded currently by six organizations including: the African Development Bank, DFID, UNICEF, the World Bank, the Government of Finland and the Government of Ethiopia<sup>17</sup>. Between 2014 – 2019, the CWA will provide \$485M for WASH. It is anticipated that a few more major donors will join Phase II of the One WASH National Programme (OWNP).

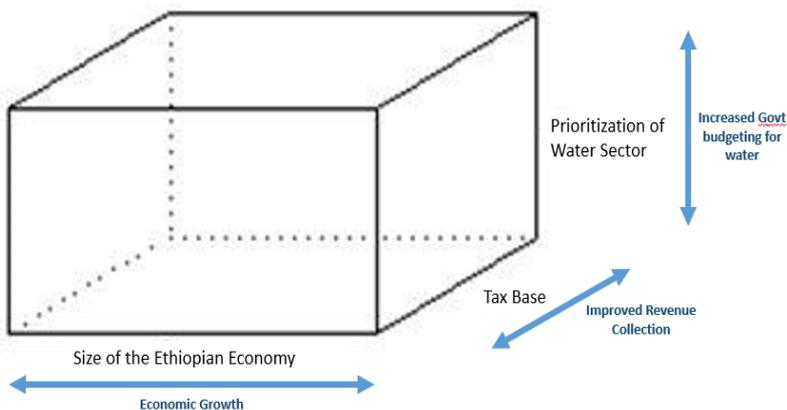
It is important to remember that the CWA is not equivalent to the OWNP. The OWNP encompasses all activities in the WASH sector; the CWA is only one fund within the wider OWNP.

## Financing Potential from Tax

Taxation's potential to support increased spending on the water sector is considerable. This can increase in three main ways:

- 1) Through economic growth.
- 2) Through improved revenue collection.
- 3) Through the Ethiopian government choosing to spend a higher proportion of tax revenue on the water sector (See Figure 3).

**Figure 3: Growth Potential of Tax Revenue for WASH<sup>18</sup>**



## - [Cont.] Financing Potential from Tax

As noted above, the country's recent annual growth rate has hovered at 10%. If this trend continues, then increased resources should flow into the water sector from tax revenue. There is also potential for increasing tax collection. During financial year 2018, Ethiopia's tax revenue consisted of only 10.7% of GDP<sup>19</sup>. In 2015, the average tax to GDP ratio for Sub-Saharan Africa was 16.2%<sup>20</sup>. Given this, there is considerable room for improving tax collection in Ethiopia. If Ethiopia raised its revenue collection to the Sub-Saharan African average, approximately \$4.5B in new tax revenue would be unlocked. If even 10% of that revenue was directed to the water sector, there would be a near-doubling of total available resources.

At present, the water sector receives approximately 1.2% of national expenditure<sup>21</sup>. Similarly, in the three woredas where MWA works, water budgets ranged from 1-2% of the total woreda budget<sup>22</sup>. Using this evidence, MWA, on behalf of partners and other Civil Society Organizations (CSOs), should be active in lobbying for water to receive a larger share of resources. Water can be a driver for economic growth and can also have a direct economic return since more resilient water systems reduce the need for expensive, life-saving, humanitarian investments such as water trucking.

## Tariff Potential

Ethiopian water tariffs are generally set below a sufficient level to enable full cost recovery – and there is evidence that they lag behind other African countries<sup>23</sup>. Further, there is no regulatory standard for water tariffs in rural Ethiopia and in some cases, tariffs are not collected at all.

In the three woredas where MWA works, only a portion of the population pay consistent tariffs. From a survey of 52 water points it was found that, on average, 42% of communities lacked any form of tariff payment system<sup>24</sup>. As a first priority, consistent tariffs need to be established with appropriate exemptions for those unable to pay. Thereafter, these tariffs need to be consistently applied across rural communities.

## Leveraging Domestic Resources

There are a number of examples of development financed projects leveraging domestic resources successfully. These domestic resources can come from central or local government or from communities directly. The Community-Led Accelerated WASH (COWASH)<sup>25</sup> project, which is jointly owned by the Finland and Ethiopia governments, received 58% of its funding from regional governments in Amhara, Tigray, Oromia, Benishangul-Gumuz and SNNP regions. An additional 10% of funding was received from beneficiary communities. The Climate Resilient WASH component of the OWINP has secured commitment from the Ethiopian Government for 40% of the needed resources, with a further 10% to come from beneficiary communities<sup>26</sup>.

CARE has had considerable success with raising community contributions in its WASH programming in South Gondar. Their community-based approach focuses on building the capacity of WASH steering committees, prioritising the involvement of women in decision-making roles and providing certifications and apprenticeships in latrine and simple water point construction and maintenance. As a result, community contributions to projects in the form of labour and cash resources have increased eight-fold, from just 5% to 40% of project costs<sup>27</sup>. This is significantly more than what is typically raised from communities and merits further study as to how the approach can be scaled and adapted in different contexts.

## User Payments and Affordability

Ethiopia's progress in providing access to improved water supplies has been "relatively equitable"<sup>28</sup>. However, access to piped water from stand posts remains skewed towards wealthier populations. The Growth and Transformation Plan II sets targets for rural piped water schemes to reach 20% of the rural population<sup>29</sup>. These motorized pipe schemes – which currently rely primarily on diesel – are expensive to operate and cost-prohibitive in certain communities. A small survey of water tariffs found that tariffs for rural motorized schemes are over five times as expensive as the average urban tariff on a per cubic meter basis. Here, consuming 20 liters per person per day would cost more than 5% of income<sup>30</sup>. While the poor may be aware of the benefits of clean water, dirty water is often available as a free alternative. Thus, it is unsurprising that poor households may prioritize spending money on food over water.

Fee waivers or discounts need to be explored to ensure that the poor can also benefit from rural piped schemes. These could be potentially incorporated with existing programs such as the Product Safety Net Programme of the World Food Program to reduce administrative burdens.

## Service Delivery Models for Rural and Small-Town Water Supplies

The main service delivery model for rural water supply is community management, normally by voluntary WASH Committees (WASHCOs). These WASHCOs aim to recover costs for operations through tariffs but are often unsuccessful for two primary reasons:

- Limited ability and/or willingness to pay.
- Lack of capacity to set a tariff sufficient to operate and maintain the water point. (Legalization of WASHCOs, which may come with added capacity building or administrative responsibility, such as maintaining a bank account, has not been completed in many regions.)

In 2018, the Ministry of Water, Irrigation and Electricity (MoWIE) launched a new guideline for rural public utilities to manage larger and more complex multi-village piped water supply schemes. At present, these rural utilities are nascent. In some cases, existing urban utilities have expanded to support surrounding rural villages. Once properly established, these rural utilities offer the potential of increased revenue collection by providing a higher quality and more valuable service. This value proposition has not yet been fully tested around the country and the selection and regulation of appropriate tariffs will be a critical issue for its establishment.

Ethiopia also has a number of ambitious new policy initiatives such as establishing a new sector regulator, developing a capital maintenance fund and increasing focus on asset management and full metering with pro-poor tariffs. With this in mind, it is expected that the overall sector landscape will change rapidly in the years to come. Communicating these initiatives across the country – from the national to the woreda and kebele levels – will be a major challenge. At present, the long-term strategic plan budgeting in the three focus woredas where MWA works does not fully reflect the planned changes. One way or another, sufficient resources for management and maintenance will be needed.

## Urban vs. Rural Water Supply

Given the limited resources, there is a tension between urban and rural water supply schemes. Both are needed, but a balance between the two funding types must be found. As can be seen in Figure 2, urban water supply already receives more funding than rural water supply.

## - [Cont.] Urban vs. Rural Water Supply

One danger of increasing financing to urban water supply is that Ethiopia's urban utilities have substantial 'hidden costs'. A World Bank study found that these hidden costs total 145% of revenues. Revenue collection is not the primary issue, with collection rates of 97%. Instead, it is caused by unaccounted for and under-priced water<sup>31</sup>. If the anticipated investments in the water sector do not address these inefficiencies, then the resources available for rural water supply (particularly for operational expenses) are at risk of being further squeezed.

So far, evidence shows that the benefits of increasing urban investment have been disproportionately captured by wealthier households. This is of notable concern. Additionally, the wealthiest 60% of households are found to be nearly four times more likely to have access to on premises piped water than those in the bottom 40%<sup>32</sup>.

MWA and CSOs should advocate for urban investments to be made equitably, to ensure that the urban poor do not miss out on the benefits. Future urban investments must also prioritise sufficient tariff collection to ensure that they are not reliant on additional hidden government subsidy to stay operational.

### Solar Opportunities

One potential solution to reduce operating expense burdens may be solar powered water schemes. These have the potential to reduce running costs and are competitive in terms of initial investment; especially when compared to motorized pumps<sup>33</sup>. In the Ethiopian context, solar powered water schemes have an additional advantage: they are not affected by diesel shortages. New designs also mean that some solar pumps are now compatible with both DC and AC power and can be used in 'hybrid systems'<sup>34</sup>.

The potential of solar powered schemes should be explored and piloted. Investments in capacity building and supply chains for solar will be needed if the technology is to scale. At present, solar powered schemes are rarely being utilized at deep wells – and these are what Ethiopia is increasingly investing in under the Climate Resilient WASH approach. However, the conversion of existing systems to solar may still be an attractive way to lower running costs, particularly if it occurs at the end of a pump's life cycle.

### Self-Supply Investments

Data for self-supply investments in Ethiopia is limited. It is estimated that there are approximately 48,000 new wells funded by self-supply that get dug each year<sup>35</sup>. This could equate to approximately \$2-4M per year contributed to the total budget for water services. More research is needed to understand this part of WASH financing as existing data is limited.

A pilot programme of MWA, funded primarily by the Conrad N. Hilton Foundation, with additional support from program partners, explored the potential to develop models to accelerate unsubsidized household self-supply. The pilot was conducted across five woredas and showed encouraging results and an uptake of self-supply. While the level of technology utilised was frequently below what is recognised in coverage estimates, the project reached almost 19,000 people and leveraged approximately \$90,000 of investment from local communities and households<sup>36</sup>.

## Microfinance Loans

The microfinance sector holds potential to support access to water but also has the potential to cause harm. In urban and peri-urban areas, consumers who are not connected to piped water supply can pay as much as four times more to purchase water from a standpipe and sixteen times more to buy water that is resold by a household<sup>37</sup>. Using microfinance to pay for a connection can therefore reduce ongoing expenditure and release significant pressure on the household budget.

A survey by Water.org in 2014 found that 70% of respondents were interested in a loan for improved water supply<sup>38</sup>. Pooling neighbouring households together under a collective agreement could make the loan more attractive to lenders. However, microfinance will not be appropriate for all households. In some cases, there is a danger of exacerbating existing debts, particularly among the poorest.

## WASH in Schools and Health Care Facilities

WASH in schools and health care facilities (occasionally termed, 'institutional WASH') is a sector priority. A recent data collection exercise in 2018 found<sup>39</sup>:

Only 22% of schools have drinking water from a protected source.
Only 12% of health posts have drinking water from a protected source.
Only 53% of health centers have drinking water from a protected source.

Significant regional disparities also lie within this national data. For instance, in Oromia and Somali regions, just 16% of schools have drinking water from a protected source<sup>40</sup>. The CWA allocated \$84.5M of its budget to institutional WASH, or less than one fifth of its total budget<sup>41</sup>. A recent estimate suggested that \$1.1B will be required to meet the SDG targets for WASH in schools and health facilities<sup>42,43</sup>.

# Recommendations.

In light of existing water sector delivery service and financing dynamics, the MWA recommends:

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-  Advocating for increased resources to the water sector through improved revenue collection and increased prioritisation of the water sector.
-  Investing additional resources in WASH for schools and health care facilities.
-  Refraining from, or reducing, major investments in urban water supply unless there is strong evidence that operational costs can be fully met through planned tariffs.
-  Investigating how to increase water tariffs while building in protections for the poor.
-  Exploring the potential of solar powered water systems to ensure affordable piped water supply to communities in rural areas.
-  Increasing research into the potential of self-supply and microfinance to support the water sector.

# About.

The Millennium Water Alliance is a permanent coalition of leading humanitarian and private organizations that convenes, integrates, and influences critical players in the business, technology, government and NGO sectors to supply clean, safe drinking water and sanitation to millions of the world's poorest people in Africa, Asia, and Latin America. Founded in 2002, MWA tests, innovates and scales effective and sustainable solutions towards this goal. Learn more at [www.mwawater.org](http://www.mwawater.org).

In Ethiopia, the Millennium Water Alliance has convened a group including CARE, World Vision, Helvetas, Food for the Hungry, WaterAid, Catholic Relief Services, IRC WASH, the Centers for Disease Control and Prevention and Splash, to support the work of the Amhara National Regional State in achieving the WASH SDGs in three districts.

This position paper is the fourth in a series of related position papers. These papers can be found on the MWA website. Other papers address issues including service-delivery models, long-term WASH planning, and capacity. The paper aims to summarize the agreed thinking of the alliance on how Ethiopia can improve its water services to achieve the global SDGs. It was approved by the following members in May 2019 for publication: CARE, Catholic Relief Services, Food for the Hungry, IRC WASH, WaterAid, and World Vision.

The paper was drafted by John Butterworth (IRC WASH) and Raymond Kennedy (IRC WASH Consultant) with detailed review by Abebaw Kebede (CARE), Tedla Mulatu (MWA) and Laura Brunson (MWA). Additional contributions were provided by Genene Abera (Catholic Relief Services), Gardachew Tiruneh (CARE), Manaye Siyoum (WaterAid), Lemesa Mekonta (IRC WASH), Mussie Tezazu (MWA), Etegenet Hailu (Food for the Hungry), Teshale Dalecha (Food for the Hungry) and Nigussie Yisma (World Vision) during a meeting of MWA held in April, 2019.

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## Appendix:

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## Millennium Water Alliance

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[Position paper 4 of 5]

