RETHINK PRIORITIES

Landscape of water programs in low- and middle-income countries

Key actors, funding, and challenges

Global Health and Development Department

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About Rethink Priorities
Rethink Priorities is a research and implementation group that identifies pressing opportunities to make the world better. We act upon these opportunities by developing and implementing strategies, projects, and solutions to key issues. We do this work in close partnership with foundations and impact-focused nonprofits.
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Editorial note

This report was produced by Rethink Priorities between July and September 2024. The project was commissioned and supported by GiveWell, which does not necessarily endorse our conclusions.

This report may be useful to donors and researchers interested in understanding philanthropic funding and programming in the water, sanitation, and hygiene (WASH) sector, and in water quality in particular.

We have attempted to flag major sources of uncertainty in the report, and are open to revising our views based on new information or further research. The information in this report was accurate to the best of our knowledge as of late 2024.

Since the time of writing, the WASH landscape has evolved significantly given recent disruptions in United States foreign aid funding. Since early 2025, the United States Agency for International Development (USAID) has been effectively closed – with a fraction of activities now falling to the State Department – leading to the reduction or termination of several major initiatives. In this report, we highlight the significant role that USAID historically played in the water space, through knowledge building, agenda-setting, and funding of many of the programs we have listed here. While we have not systematically assessed the impact of these foreign aid changes to the WASH sector, it is very likely that some of the programs we highlight in this report have since been altered, scaled back, or discontinued. These developments are not reflected in the body of the report but are noted here to provide context.

We are grateful for the invaluable input of our interviewees, who do not necessarily endorse our conclusions. Note that our interviewees spoke with us in a personal capacity and not on behalf of their respective organizations.

Executive summary

The water space is populated with a large number and a wide variety of implementing organizations. Implementers range from large non-governmental organizations (NGOs) who operate water, sanitation, and hygiene (WASH) initiatives as part of broader strategic goals, to "beltway bandits" that execute many bilateral aid projects, to water-focused implementers both large and small. Despite somewhat limited funding availability in recent years, the WASH space includes many longstanding actors with local ties and sector-wide expertise.

Implementers

We identified 285 implementing organizations in our longlist, of which we vetted 98, and provided detailed write-ups for a smaller subset. In this report, we focus on 29 organizations, including GiveWell's top implementers of interest, those specifically highlighted in expert interviews, and several other organizations that seemed particularly promising on a first pass. This set of organizations is a subset of those contained in our longlist, which itself may not be comprehensive.

We identified eight implementers that seem particularly promising from publicly available information, including Water Mission, World Hope International, Water and Sanitation for the Urban Poor (WSUP), The Water Project, Water for South Sudan, Mercy Corps, Food for the Hungry, and BRAC. In our section on water program implementers, we also mention a further five promising organizations that may merit further investigation.

The organizations in our longlist range from large implementers with budgets of up to $1.2 billion (RTI and likely others, including Chemonics and FHI 360) to those operating with less than a quarter of a million dollars per year (Aqua Clara and the Institute Water for Africa). Of the implementers we reviewed, most operate in at least one of GiveWell's priority countries. The largest actors on WASH projects in these countries include RTI International, CARE, Oxfam, PLAN, Mercy Corps, PSI, PATH, and Concern Worldwide. These organizations operate on a total budget of more than $5.7 billion, although we did not find WASH- or water-specific budgets for any of them.

We identified several operating models among implementers. The most common intervention is building and maintaining water access infrastructure (such as pumps and wells), with a variety of financing and maintenance frameworks, including public-private partnerships, community organizations, and usage fees to cover private infrastructure management. Others include distributing products for household chlorination in emergency contexts, developing local market demand and supply of WASH products, and providing training and workshops to encourage more hygienic practices.

Of the 29 organizations we assessed in detail, 20 address water quality with chlorine, including through in-line chlorination or products such as chlorination tablets, dispensers, and even chlorine synthesis kits. Of these 20, 10 mention in-line chlorination, with the rest generally emphasizing household chlorination and focusing on distributing chlorine tabs, in both humanitarian and development contexts. A further 26 of the 98 vetted organizations in our spreadsheet mention chlorination on their website in some form. We also identified several organizations that seem to address water quality through filtration or other technologies.

Websites are frequently unclear about the details and business plans of WASH interventions. We highlight many organizations that "drill wells" and "build piped networks" but cannot

provide further detail about financing structures, local partnerships, and contracting agreements. Furthermore, many implementers tout a wide range of technologies and interventions being used, and are unclear about the share that each intervention actually represents in their work. We recommend that GiveWell speak directly with sector experts, as well as people working in the specific organizations of interest, to gain a better understanding of the exact work being done in each context.

Funders

The main funders we identified for water programs in GiveWell's priority regions (sub-Saharan Africa and South Asia) are the World Bank, USAID, the Asian Development Bank,[1] and possibly UNICEF, all contributing hundreds of millions to a billion dollars annually to water or WASH. The Chinese government has contributed substantially to water infrastructure in Africa (up to $1.5 billion in a single year), though this appears to have dropped to almost zero in recent years. Similarly, the United Kingdom (spending around $100 million) and several European governments were once much more prominent funders in this space, but development assistance is trending downward, with one expert citing the shift toward more right-wing governments as the primary driver.

Alongside these trends, funders seem to be increasingly interested in funding systems-level interventions, or interventions that are sustainable. This means a shift toward providing funding for technical assistance, training for operating and maintaining water infrastructure, and programs that develop markets for WASH products and services.

Our current sense is that the largest philanthropic funders of water and WASH interventions are all foundations focused on developing and scaling innovations to improve health outcomes from safe water access, including the Aqua for All allocating ~$30-40 million per year, and two members of the WASH Funders Group—the Stone Family Foundation, and the Conrad N. Hilton Foundation—each allocating ~$10-15 million per year. Grand Challenges Canada, also a part of this group, seems to spend a much lower amount on water—in the realm of $100,000. These organizations also seem to prioritize system-wide interventions, with a focus on sustainability and building the local capacity of public and private actors to maintain and operate water infrastructure.

Our research suggested it would be very difficult to provide a breakdown of funding by program type (e.g., quality vs. access), since funders prefer to invest in interventions with many components (e.g., water and sanitation infrastructure, behavioral interventions, etc.). Our experts suggest that the amount of funding going to water quality is small compared to spending on water infrastructure and maintenance—perhaps in the range of 1%—and that water quality is underfunded.

Debates and sector dynamics

Because water treatment interventions tend to be cheap relative to building new pipes, partnering with organizations building these larger systems might present an opportunity to significantly improve water quality at scale. Within water quality, an expert suggested that most

[1] Although the Asian Development Bank (ADB) appears to be an important funder (see this spreadsheet for some initial facts about the organization), this report does not include an assessment of its work. With more time, we would pursue further investigation into ADB.

funding goes to chlorination rather than filtration (mostly GiveWell funding), though we do not think data with this level of detail is available or would be easy to collect.

We asked experts about sector-wide debates and notable dynamics. A major debate centers around the weight different organizations place on the null results of the SHINE and WASH Benefits trials, which suggested that WASH interventions (including home-based water treatment) had no effect on diarrhea in Kenya or Zimbabwe. Additionally, one expert suggested that the health sector does not place sufficient emphasis on disease prevention via WASH, and that GiveWell may be well-positioned to shift the sector's mindset in this direction.

Introduction

The scope of our landscaping effort included all actors with a role in safe water access in GiveWell's highest-priority countries within sub-Saharan Africa and South Asia.[2] We focused our attention on efforts to improve water quality over access, with a particular interest in programs that provide water chlorination services.

We identified a subset of implementers and funders that may be of interest, and have written more detail about those organizations below. We also compiled a spreadsheet summarizing our validated findings for both implementers and funders that contains considerably more examples than the small subset selected for further discussion in the text of this report.

It appears that the water/WASH space contains many organizations that straddle the line between funder and implementer. For example, many IGOs and aid agencies may act as funders and also carry (or contract) out some of their own implementation activities. In addition, several WASH-focused organizations, such as Aqua for All and Water4, maintain strong relationships in the field and tout their in-depth implementation work, while distributing funds to smaller implementers. We have added a column to the implementer tab of the water spreadsheet indicating which organizations could also arguably be considered a funder, and have also added those organizations to the *Funders* sheet for completeness, with a similar note in column V.

Key actors in water programs in sub-Saharan Africa and South Asia

The global landscape of WASH interventions is well-populated with implementers, including those addressing the needs of vulnerable communities across sub-Saharan Africa and South Asia. Faith-based organizations are common in this space, as well as large international organizations (such as Oxfam or PSI), national aid agencies, tailored nonprofits, and organizations with expertise in integrating WASH with other development goals.

As part of our research into the WASH landscape, we spoke with Arthur Baker (University of Chicago, 2024a) and Terrina Govender (University of Chicago, 2024b), both at Development Innovation Lab at the University of Chicago. Baker and Govender confirmed that there are many implementing organizations of all sizes within this sector, many of which may be promising for future cost-effective partnerships. We also spoke to Amita Chebbi (Evidence Action, 2024), Amrita Mahtani (LinkedIn, 2007), and Colin Richardson (LinkedIn, 2011), who all work on Evidence Action's water access programs.

Experts noted that large organizations such as World Vision, Tearfund, and Catholic Relief Services, as well as USAID contractors such as Chemonics, perform large amounts of water-related fieldwork, some of which might be improved or tweaked at the margins. Moreover, several smaller organizations such as Action Contre le Faim and SFH already do promising work according to some experts we spoke with. As discussed in a later section, experts noted that many large and long-standing organizations in the WASH space have received criticism for building operationally unsustainable infrastructure, and many of the largest implementers have thus refocused their efforts on larger and more multifaceted investments in smaller geographic areas.

[2] GiveWell's priority countries for progress on water quality include Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Guinea, Guinea-Bissau, Madagascar, Mali, Niger, Nigeria, Sierra Leone, Somalia, South Sudan, and Togo.

Despite this diversity, there appear to be relatively few organizations working on in-line chlorination, and even mentions of chlorine on implementer websites are often little more than outlines of best practices or blog posts detailing humanizing stories. In total, we identified 10 organizations practicing in-line chlorination. Similarly, the number of organizations we uncovered engaging in water quality initiatives *exclusively* is extremely limited (Evidence Action being the exception).

The Implementer tab of our spreadsheet contains 285 implementing organizations across the world. This "longlist" includes all organizations that were mentioned during our research, including asking 10 experts, searching on Google, and consulting ChatGPT. For the subset of 98 organizations that seemed most initially promising or that were recommended by an expert, we manually checked their website to verify whether they work in relevant WASH interventions, whether the site mentions chlorine, and many other relevant organizational characteristics. For the top 29 organizations identified by GiveWell or by experts as particularly relevant, we spent 30-80 minutes looking further into their websites and any external references. Based on our understanding from this research, we explain the mechanics of their implementation work, technologies employed, and any information about funding models and general approach that could be found.

Shortlisting methodology and recommendations

As described, our research process involved narrowing down from a longlist to specific case studies. Given the short timelines for this project, we made our case study selections fairly quickly and with limited information; as such, there is a reasonable chance that further investigation of the remaining organizations on our longlist could identify additional key or promising actors. However, of the organizations we reviewed, several appear to be particularly promising for future partnerships with GiveWell.

Some useful intuitions informed our selection of what we consider to be promising organizations among the 29 from our shortlists. We considered each organization's:

1. **Type:** To understand the sector's implementing landscape, we spoke to Daniele Lantagne (Tufts University, 2018), who runs a WASH-focused research group at Tufts University. According to Lantagne, water quality tends to be secondary to water quantity in emergency situations, in which many large NGOs tend to distribute aid. In addition, implementers that primarily execute contracts, such as large USAID contracts, may not offer the most strategically straightforward path to impact. Furthermore, we deprioritized organizations whose focus is research or technical assistance, except for well-connected teams with which we believe it would be particularly useful for GiveWell to collaborate to better integrate with the broader WASH sector.
2. **Operating model:** Those working with local communities or using public-private partnerships to develop large infrastructure, may be quite promising. Our research highlighted the importance of operational sustainability and the long-term fiscal dynamics of the sector, so such locally inclusive models may be more scalable in the long run.
3. **Focus on water quality, including chlorination:** Organizations that are already pursuing potentially cost-effective projects and even in-line chlorination in priority countries were clear frontrunners for our selection. Furthermore, organizations that already prioritize water quality may be possible to nudge into chlorination due to its low-cost nature.

Following the above prioritization guidelines, we recommend further inquiry into the following organizations. The first list would be our top priority, but those in the second list, as well as potentially others in our spreadsheet, may still be highly promising partners.

Strongest recommendations:

- Water Mission, a relatively small water-focused organization working in many of GiveWell's priority countries, with a focus on water quality, including in-line chlorination.
- World Hope International, a development charity with a significant focus on water and recent case studies of in-line and in-well chlorination.
- Water and Sanitation for the Urban Poor (WSUP), a small NGO that engages in public-private partnerships (PPPs) and other local partnerships to build pilot and scalable WASH solutions in urban contexts.
- The Water Project, which collaborates with local communities to build water access and water quality infrastructure (including in-line chlorination).
- Water for South Sudan, a small organization building water access infrastructure in South Sudan.
- Mercy Corps, which builds and/or helps support infrastructure, and later hands off operations to private or public operators in many contexts, including in sub-Saharan Africa.
- Food for the Hungry, which builds water access systems and "clean water systems," and has historically distributed chlorine.
- PATH, which runs an in-line chlorination group and may be a useful partner to integrate into the WASH space.

Other recommendations:

- World Vision, a humanitarian organization that is well-known in the WASH space, and collaborates with local governments and communities on WASH initiatives, including water access and quality infrastructure.
- Oxfam, a large confederation of NGOs that installs water infrastructure, including chlorination pumps, often in humanitarian contexts.
- Charity: Water, an international NGO with a focus on running water projects (including water quality) in developing countries and a "solution-agnostic" approach that may indicate an openness to chlorination.
- 1001fontaines, a nonprofit that empowers local water entrepreneurs in Francophone countries, and that frequently touts its work in clean water, although we are unclear what purification methods they employ.
- Aquaya, a water-focused research organization that, among other things, supports governments to engage in chlorination.

Below, we present implementer summaries in three lists. The first list highlights the six organizations that GiveWell identified as being of greatest interest. The second includes the largest implementing actors working in this space, displayed by annual budget. The third details some additional, potentially promising partners. Our selection of 23 organizations beyond GiveWell's six priority cases was based on feedback from GiveWell, as well as a combination of factors including expert recommendations, presence in priority countries, focus on chlorination, and potential for scalability or innovation.

It has not been possible to find WASH-specific or water-specific funding numbers for each organization. For implementers lacking this information publicly, we have noted the organization's entire annual budget where available, and appended the figure with "whole organization," whereas WASH-specific funding figures are appended with "water/hygiene."

GiveWell's top six organizations of interest

Water Mission

- **Intervention**: Developing and implementing safe water solutions, including solar-powered systems and in-line chlorination, in crisis and developing contexts. They highlight three technologies:
  - Living Water Treatment System: "Venturi based alum addition filtration" (Water Mission, 2022a)
  - Erosion Chlorinator: in-line chlorinator using tablets (Water Mission, 2022b)
  - Solar-Powered Water Pumping
- **Annual funding received**:[3] $35 million (water/hygiene)
- **Relevant countries of operation**: South Sudan, Burundi, Togo, Burkina Faso, Cameroon, Nigeria, Sierra Leone, and Liberia
- **Chlorination**: Yes, in-line (Water Mission, 2022b)

Water Mission (2015a) is an American faith-based "engineering non-profit" dedicated to providing safe water solutions to communities in developing countries. Their work spans emergency response, infrastructure development, and long-term water and sanitation projects.

Water Mission's water access work typically involves developing basic infrastructure, usually a river, spring, or drilled well (Water Mission, 2015b). They then test and treat the water using chlorination and/or filtration, and add solar pumps.

WaterAid

- **Intervention**: Public-private partnerships to manage and deliver WASH services and products, as well as behavioral change workshops and supporting private WASH markets
- **Annual funding received**: $25 million (water/hygiene)
- **Relevant countries of operation**: Madagascar, Mali, Niger, and Nigeria
- **Chlorination:** In-line, possibly others

WaterAid is an international NGO focusing on water, sanitation, and hygiene operations, including projects in 16 African and four South Asian countries. According to its 2022 Global Strategy, WaterAid partners with public, private, and non-governmental organizations to manage, deliver, and improve technical capacity in WASH services (WaterAid, 2022).

In a project in Mali, WaterAid collaborated with community members, local partner organizations, and government officials to build WASH infrastructure directly, including toilets and handwashing facilities in communities, schools, and healthcare facilities (WaterAid, 2016). A major component of their programming is workshops to generate behavior change at the community level. WaterAid also has a hand in developing private WASH markets by providing financial and entrepreneurial training, as well as connecting entrepreneurs with microloan operators to finance their small businesses.

[3] Sources of the information regarding implementers' funding are provided in column F of this sheet.

It is our impression that WaterAid is mostly interested in community-wide WASH interventions with many components, which may obscure any direct water quality interventions. A quick search of their website did not return any current projects specific to improving water quality.[4] However, we do know that they have worked in this space in the past. A 2017 report, for example, outlines that WaterAid has worked on in-line chlorination in Nicaragua; though it is unclear from our quick scan whether WaterAid installed these systems themselves or merely provided technical assistance (WaterAid, 2017).[5]

World Hope International

- **Intervention**: Building wells and other water-access infrastructure with built-in chlorination, in communities that have invited WHI's operations
- **Annual funding received**: $20 million (whole organization)
- **Relevant countries of operation**: Sierra Leone, Liberia, Cambodia, Ghana, Haiti, Malawi, Mozambique, and Zambia
- **Chlorination:** In-well, if possible, as in Sierra Leone (World Hope International, 2019b), or in-line through an in-home water piping system, as in Cambodia (World Hope International, 2017)

World Hope International (WHI) is a faith-based organization with a holistic, community-oriented approach to development work. Their WASH-related activities are a core component of their efforts, but they note that their projects are "interconnected," as well as "community-led and sustainable" (World Hope International, 2019a). WHI's water-access operations include drilling clean water wells and "launching market-driven water solutions". WHI does water-related work in Sierra Leone, Liberia, Haiti, and Cambodia, and notes that this work has served hundreds of thousands of people, although they only operate in communities that have "invited" them[6] (World Hope International, 2019a; World Hope International, 2016).

World Hope International focuses on building infrastructure such as wells and access points, with an apparent emphasis on water quality through chlorination. They have dedicated teams for geophysical surveying, well drilling, and pump installation (World Hope International, 2019b). Several case studies mention chlorinating wells directly, such as at a school and a community well, both in Sierra Leone (World Hope International, 2019b; Water Hope International, 2019c). Aside from wells, WHI also appears to prioritize distributing safe water. In Liberia, WHI set up water access points selling chlorinated water, and their Cambodian "TapEffect" system includes in-line chlorination in a pipe system that delivers water directly to people's homes (Kram, 2022; World Hope International, 2017).

Water and Sanitation for the Urban Poor (WSUP)*

- **Intervention**: Working with utilities and community groups to build sustainable water and sanitation projects in urban areas, and piloting programs with the goal of spurring public actors to scale up
- **Annual funding received**: $9 million (water/hygiene)

[4] We searched for key terms (and variations thereof) on the web and within the organizational website: chlorine, Aquatabs, in-line.
[5] We suspect that the case study document by Schweitzer et al. (2017) on Nicaragua provides significant additional detail on WaterAid's approach. We quickly scanned it to look for mentions of chlorination, Aquatabs, and other related terms but did not find any helpful information. It might, nonetheless, be a promising document for GiveWell to get acquainted with the types of projects WaterAid supports.
[6] We do not know what this means based on the available information.

- **Relevant countries of operation**: Bangladesh, Ghana, Kenya, Madagascar, Mozambique, and Zambia (also implements projects elsewhere through its consultancy arm, WSUP Advisory) (Skoll, 2015)
- **Chlorination:** Unclear whether their standard infrastructure includes chlorine, but at least one recent Uganda project has in-line chlorination

Water and Sanitation for the Urban Poor enhances water and sanitation services for urban poor communities. Paul Gunstensen (LinkedIn, 2010), a longtime water sector specialist and consultant who once worked at WSUP, mentioned them as one of the most important organizations working with the urban poor, as many implementers tend to focus on need in rural areas.

WSUP works with local utilities and community groups to build scalable pilot infrastructure projects.[7] For example, in Madagascar, their early pilot of community water kiosks (built by WSUP and operated by a community water user association) has expanded from five kiosks to hundreds, providing affordable, safe water to low-income households and creating local jobs (WSUP, 2017). According to the Skoll Foundation, WSUP has benefited nearly 20 million people in six countries[8] in sub-Saharan Africa and South Asia (Skoll, 2015), through what it calls a "Sector Functionality Framework" and Skoll calls "a focus on systems change" (WSUP, 2017; Skoll, 2015).

According to the UK Department for International Development (DFID)'s 2016 evaluation of WSUP's funded activities, the organization's Mozambique activities exemplified how it worked to influence utilities: "working with the local utility … in a number of different ways: tertiary network extension, Non-Revenue Water (NRW), Low Income Consumers (LIC's) and District Metered Areas (DMA's)." DFID also noted that the local utility was then implementing WSUP's model in other regions beyond WSUP's locations of focus (INTRAC, 2016, p. 36).

WSUP does not seem to focus on chlorination as a core component of their development projects, as we found few mentions on their website or evaluations. However, some local partners have shown interest in in-line chlorination, such as in Uganda (see WSUP, 2022, p. 25). In addition, two 2011 WSUP discussion papers mention chlorination: one as a method of purifying water supply during floods, and another by noting low chlorine residual levels as a key water quality metric (WSUP, 2011a; WSUP & ODI, 2011b).

The Water Project

- **Intervention**: Building a wide range of water access infrastructure, in collaboration with the local community
- **Annual funding received**: $5.7 million (water/hygiene)
- **Relevant countries of operation**: Sierra Leone, South Sudan, Kenya, and Uganda
- **Chlorination:** Yes, in-line and via dispensers

The Water Project is a nonprofit organization that works to provide safe drinking water to four African countries. The Water Project builds water infrastructure, including boreholes, hand and solar water pumps, wells, and chlorine dispensers, with the support of local communities, and

[7] They also focus considerably on sanitation-related projects, as well as monitoring and evaluation, and general capacity building among local utilities and governments. In Kenya, for example, WSUP piloted a simplified sewer network in Nakuru and Makuru that led to a broader commitment by the African Development Bank to extend this approach (WSUP, 2017).
[8] Bangladesh, Ghana, Kenya, Madagascar, Mozambique and Zambia.

provides workshops to maintain and operate these projects. Communities served are expected to contribute substantially to the project to ensure "ownership."

The Water Project recently built a water access point that protects a natural spring in a rural community in Kenya (The Water Project, 2024). The project also includes a chlorine dispenser that distributes pre-measured drops for containers. The community provided all locally available construction materials. The Water Project supplied remaining materials, built the access point, and then transferred over maintenance and operation to a local water user committee that they helped establish. In our scan of other projects, this model seems to be popular within the organization.

Water for South Sudan

- **Intervention**: Drilling wells, building solar-powered gravity-fed pump and distribution systems, and performing hygiene and infrastructure maintenance training
- **Annual funding received**: $2.4 million (water/hygiene)
- **Relevant countries of operation**: South Sudan
- **Chlorination:** They mention sanitizing new wells with chlorine if contamination is found, but nothing relating to ongoing chlorination (WSS, 2024)

Water for South Sudan (WSS) is a small organization focusing on providing water to rural South Sudan. They have drilled more than 600 wells since 2005, and aim to drill 40 new wells per year. WSS estimates that each well costs about $20,000 and can serve as many as 2,000 people, although on average they report about 800 beneficiaries per well (WSS, 2023a).

Water for South Sudan has a narrow focus compared to many organizations on this list: they drill wells in remote areas in South Sudan (WSS, 2023a). As corollaries to this goal, WSS also builds small solar-powered gravity-fed pump and distribution systems, and performs hygiene training to keep the wells clean and maximize community benefits (WSS, 2023b; WSS, 2017).

Main actors in GiveWell's priority countries

The following organizations appear to be quite large in the WASH space, particularly in GiveWell's priority countries, based on our understanding of the annual expenditures of each organization. We have displayed them in descending order based on annual expenditures found in each organization's annual report. However, as noted before, funding totals can be difficult to find or only available at the organization-wide level, rather than pertaining specifically to WASH or to chlorination-relevant activities. Therefore, we would advise that readers treat this list as an indicator of important organizations, but not as a definitive list of every important actor in the space, nor as a catalog of specific WASH spending.

In the time available, we were not able to determine the extent to which large implementers are simply executing on contracts from even larger funders, such as national aid agencies and multilateral organizations, versus designing programs themselves. We expect that a detailed exploration of a given aid agency's contracting portfolio, as well as expert interviews with people at an organization of interest, would help to better identify which projects are a result of an internal strategic direction as opposed to contracted implementation.

RTI International*

- **Intervention**: Promotes WASH solutions, including infrastructure development, hygiene promotion, and policy support in high-need regions.
- **Annual funding received**: $1.2 billion (whole organization)
- **Relevant countries of operation**: Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Guinea, Madagascar, Mali, Niger, Nigeria, Sierra Leone, Somalia, and South Sudan
- **Chlorination:** Likely not in relevant countries[9]

As both a nonprofit research institute and an international development organization,[10] RTI is an implementer and USAID contractor that designs and implements large-scale projects. They provide technical assistance (RTI, 2022) support policy development (GlobalWaters, 2018), and ensure sustainable WASH services. We found it difficult to find specific information on relevant projects on RTI's website, though we spent about half an hour looking into it. What we found indicates that RTI's projects seem to focus more on advocacy and capacity building than on implementing infrastructure projects.

RTI's work seems to be primarily in service of USAID projects, many of which are listed on the official GlobalWaters portal. In one $19.6 million project in Zambia, RTI is working with USAID to "professionalize and promote accountability for reliable and high-quality water, sanitation, and hygiene service providers and to remove barriers to private sector participation in water, sanitation, and hygiene services delivery" (USAID, 2023a). In another $45 million project in Ethiopia, RTI aims to "accelerate the expansion and sustainability of climate-resilient water services and the adoption of key hygiene and sanitation practices" (GlobalWaters, 2023a). Aside from their involvement with USAID work, we did not find examples of RTI WASH projects, and our weakly held understanding (based on their reputation as primarily contractors) is that they and the other prominent contractors do not typically focus on strategies and business models other than those listed in their contracts.

CARE International*

- **Intervention**: Installation of water infrastructure and provision of trainings to support its maintenance and operation, as well as the generation of a WASH product market in local communities
- **Annual funding received**: $1.045 billion (whole organization)
- **Relevant countries of operation**: Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Guinea, Madagascar, Mali, Niger, Nigeria, Sierra Leone, Somalia, South Sudan, and Togo
- **Chlorination:** Aquatabs, possibly others

CARE is an international NGO with operations in 109 countries, including all of GiveWell's priority countries (CARE, 2020). CARE's current intervention model in water, sanitation, and hygiene appears to focus on installing water infrastructure (and generating capacity for its management and operation), as well as creating market demand for WASH products and

[9] The keyword is frequent on their website, but it does not seem to mention RTI directly usinguses chlorination in developing countries; an example of their use of in-line purification in a US context can be found in RTI (2023).

[10] RTI's water-related programs are: the Food-Energy-Water Nexus, Water Quality, Water Resources Management, and Water, Sanitation, and Hygiene (WASH), of which it appears only the latter operates primarily in developing countries. This section focuses on their WASH efforts only.

services (CARE, 2024). For example, CARE executed a multi-year WASH program[11] in Mali from 2013-2019, supported by USAID (CARE, 2019a). The project landing webpage lacks concrete details on the program, but a final project report outlines that CARE purchased and installed public latrines, drinking water points, and sanitation equipment in rural communities and delivered workshops to support communities in the management of said system (CARE, 2019b).

CARE also set up 101 community-run sanitation shops that promoted awareness of sanitation practices and sold SANPLAT slabs (a latrine system), Aquatabs, and soap (see CARE, 2019b, p. 25). CARE's level of involvement was significant, leveraging USAID-approved wholesalers to supply Aquatabs to the sanitation shops.[12]

Oxfam*

- **Intervention**: Installing water infrastructure, alongside training for maintenance and operation, and voucher system to stimulate local demand for WASH service, among others
- **Annual funding received**: $991 million (whole organization)
- **Relevant countries of operation**: Burkina Faso, Central African Republic, Chad, Mali, Niger, Nigeria, Somalia, South Sudan, and Togo
- **Chlorination:** Chlorination pumps, possibly others

Oxfam is a global confederation of NGOs operating in dozens of countries, maintaining program offices in Bangladesh, Burkina Faso, Ethiopia, Mali, Myanmar (Burma), Nepal, and Uganda. Oxfam's WASH activities appear to focus on humanitarian interventions, for example, installing water infrastructure in refugee settlements and generating capacity for its management and operation.

We noticed two provision models, one deploying services for free and another using vouchers to stimulate local demand for WASH services. In a 2013 initiative, Oxfam conducted direct installation of water tanks and chlorination pumps for Syrian refugees in Lebanon (Civil Society, 2013). It also provided workshops and refresher courses to water caretakers to teach proper use and maintenance of the chlorination pumps (Oxfam, 2013).[13] These services appear to have been provided for free. By contrast, a 2016 report outlines the introduction of a voucher system servicing a small informal refugee settlement also in Lebanon (Ghanem et al., 2016). Through this program, Oxfam would distribute vouchers that households were able to redeem from private water truckers contracted by Oxfam (who guaranteed the water's safety through regular checks). This project served roughly 8,000 individuals.

Mercy Corps*

- **Intervention**: Public-private partnerships; building infrastructure and handing it off to other operators, such as NGOs and utilities
- **Annual funding received**: $680 million (whole organization)

[11] We chose to dig into this program because it is in a high-burden country and because we suspected that USAID funding required more rigorous documentation than CARE would otherwise provide.
[12] They report selling roughly ~109,000 Aquatabs, though they do not report their uptake, or estimates of people reached.
[13] We are uncertain about the number of beneficiaries. This overall project (which had many other components) reports benefiting roughly 25,000 individuals in Lebanon, so this would be the ceiling of beneficiaries.

- **Relevant countries of operation**: Benin, Burkina Faso, Central African Republic, Mali, Niger, Nigeria, Somalia, and South Sudan
- **Chlorination:** Water plant treatment with chlorine, possibly others

Mercy Corps is an international humanitarian NGO with global operations, including in Benin, Burkina Faso, Central African Republic, Mali, Niger, Somalia, and South Sudan (Mercy Corps, 2013). Mercy Corps appears to prefer models in which it builds or helps support infrastructure and then hands off operations to private or public operators (see Mercy Corps, 2021, p. 4). For example, it engages in various public-private partnerships to deliver drinking water and build infrastructure. In the Democratic Republic of the Congo (DRC), Mercy Corps directly built and expanded the urban sanitation infrastructure in Eastern Congo to reach 350,000 people in 2013 (Urban Wash, 2019). It then entered into an agreement between the local utility and a local NGO to operate the infrastructure.[14] We could not identify from the limited documentation what, if any, water quality treatments were deployed.[15] In another example in 2019 in the Bahamas, Mercy Corps partnered with a local NGO and utility to jointly install, operate, and manage a reverse osmosis plant (that treated water with chlorine) for a year before handing it off to the utility (Mercy Corps, 2019).

Population Services International (PSI)*

- **Intervention**: Generate private demand for WASH products and services (securing supply, supporting small businesses, and generating demand)
- **Annual funding received**: $373 million (whole organization)
- **Relevant countries of operation**: Benin, Burundi, Cameroon, Madagascar, Mali, Niger, Nigeria, Sierra Leone, and Somalia
- **Chlorination:** Yes, in the past as Aquatabs, possibly others as well, but not currently

PSI is a network of locally-led organizations that are focused on development work. It maintains operations in many countries, including Kenya, Malawi, Tanzania, Uganda, Zambia, and Zimbabwe.

PSI's water, sanitation, and hygiene program emphasizes sustainability and working with public and private sector actors to deliver services (PSI, 2023). For example, in a WASH intervention in Vietnam in 2016 aimed at improving hand-washing and sanitation practices, PSI helped supply, manage, and generate demand for household sanitation products, like septic tanks (Vinh, 2016; PSI, 2018). This entailed signing agreements with suppliers, providing business support to local retailers to sell sanitation products, training individuals to operate as contractors to install these products, and behavioral interventions to increase hygienic sanitation practices at the household level. PSI ran a similar program in Benin in 2007 that supplied local shops with Aquatabs and generated household demand for these products through behavioral interventions (USAID, 2020).[16]

[14] Under the agreement, the local utility would operate water production and distribution, and the local NGO would manage the sale of water to households and the collection of revenue.
[15] We spent 20 minutes looking for final project reports on the Mercy Corps website as well as on the web, using keywords: Integrated Maji Infrastructure and Governance Initiative for Eastern Congo or IMAGINE, DR Congo, final report, Mercy Corps, drinking water, chlorination.
[16] A 2009 project spreadsheet states that PSI distributed Aquatabs in 10 different African countries, but provides no detail on the process through which these were distributed (PSI, 2009). We assume that something like the Benin model was implemented. We would not recommend looking through this document or PSIs website for more information on water quality or chlorine-specific projects.

We found no mention of current chlorination programs on its website,[17] leading us to believe that water quality is no longer a priority to PSI. Our impression was confirmed in an interview with Daniele Lantagne, a Research Professor at Tufts University and water expert, who mentioned that they had very large household chlorination projects between 2000 and 2010 that have since been closed or are operating at a reduced/emergency response level only. Lantagne also mentioned that PSI has shifted resources to sanitation since that is "where donor money is."

PATH International*

- **Intervention**: Strengthening market-based approaches to stimulate supply and demand for water treatment and storage products and services
- **Annual funding received**: $315 million (whole organization)
- **Relevant countries of operation**: Burkina Faso and Nigeria
- **Chlorination:** Aquatabs, Waterguard, others possible, but no explicit references since 2011

PATH is a nonprofit organization focused on health, with global operations including projects in 14 African and seven Asian countries. PATH focuses on global and persistent health issues, including a program on access to safe drinking water (PATH, 2018). Their focus appears to center on strengthening market-based approaches to stimulate supply and demand for water treatment and storage products and services (PATH, 2022). This has meant conducting market research across various countries, including India, Cambodia, Kenya, and Vietnam, to understand the types of solutions that might be most popular in those markets (PATH, 2008).

On the basis of their research findings, PATH has entered into agreements with suppliers to manufacture household water filters and distribute them to local businesses (PATH, 2013). PATH provides entrepreneurs with support to sell these products (via workshops) and generates local demand for them through public health campaigns. We identified a few instances of use of Aquatabs (in Vietnam; Robertson, 2011) or Waterguard (in Malawi; PATH, 2011) in some of their projects, though we could not find any recent references to water quality along the lines of these projects since 2011.[18] We also found what appears to be a video advertising their work digging wells in Uganda (YouTube, 2023), but have not found further discussion of this workstream.

Lantagne mentioned that PATH runs an in-line chlorination group that meets once a month, and has developed an electrolytic generator for chlorine. According to Lantagne, PATH would like to scale up the use of its generator, and has been working quite a bit in hospital settings on this issue.

World Vision*

- **Interventions**: Collaborates with local governments and communities to ensure long-term sustainability of WASH initiatives. Systems by type include solar-powered submersible pumps (51%), rainwater harvesting (23%), protected spring catchment (14%), power grid/ generator-powered submersible pumps (7%), surface water treatment system (5%) (World Vision, 2020, p. 4)

[17] We spent 10 minutes looking on their website and online for the following key terms: PSI, program, final report, chlorine, water quality.
[18] We spent 10 minutes looking on their website and online for the following key terms: PATH, final report, chlorine, water quality, Aquatabs, Waterguard.

- **Annual funding**: $192 million (water/hygiene) to bring water to an average of 3 million people a year (World Vision, 2024)
- **Relevant countries of operation**: Burundi, Central African Republic, Chad, Mali, Niger, Sierra Leone, Somalia, and South Sudan
- **Chlorination**: Potentially in-line (see World Vision, 2022 for example of a solution they use to monitor chlorine in distribution systems); they also distributed 40 million P&G "Purifier of Water" packets, mostly in emergency situations (World Vision, 2024)

World Vision is a large Christian humanitarian organization that integrates WASH programs into its broader development work, which includes health, education, and emergency response. World Vision's extensive reach and established infrastructure in both urban and rural areas make it a frequently-mentioned actor in this space, and potentially the most promising large organization for potential partnerships, particularly given its commitment to water work, as expressed in its five-year Water Plan that focuses on 41 countries (World Vision, 2020).

In the fiscal year 2022-23, WV spent $192 million to reach 3.1 million people with clean water, including building 70,775 water points from 1,448 new boreholes (World Vision, 2024). World Vision's WASH programs include a variety of interventions such as digging wells, installing solar-powered pumps, and creating rainwater harvesting systems. After about an hour on their website and looking through documentation, we remain unclear about what proportion of their WASH budget is dedicated to each type of program, and how much that varies each year, but the proportion of water supply systems delivered is noted below in the bulleted section.

The charity prides itself on the longevity of its water access interventions, noting that its dug wells are operational for "years to come," longer than the average Ghanaian well (World Vision, 2014). They attribute this to charging a small user fee and establishing a local committee to manage the well. World Vision does not often volunteer specifics about their water quality interventions, but they do appear to distribute purifying packets (P&G purifier packets that consist of iron sulfate hydrate, sodium carbonate, and calcium hypochlorite, as seen in P&G, 2015; World Vision, 2024). We did not find any further details about the financing structure of their programs.

Save the Children

- **Intervention**: Direct field-work, including drilling boreholes, solar-pump systems, and community water points, as well as distributing some type of purification "technology"
- **Annual funding received**: $70 million (water/hygiene)
- **Relevant countries of operation**: Burkina Faso, Burundi, Chad, Guinea-Bissau, Madagascar, Mali, Sierra Leone, Somalia, South Sudan, and Togo
- **Chlorination:** Sometimes in wells, but seems to frequently distribute chlorine tablets and tests, in both humanitarian and development contexts

Save the Children (STC) is an international NGO focusing on a wide range of charitable causes impacting children. STC's efforts include the installation of water points (wells, boreholes, and storage), construction of sanitation facilities, and promotion of hygiene practices to prevent disease and improve overall health outcomes. STC works in both humanitarian and development contexts, although it seems to prioritize crises in its communications (Save the Children, 2022a). We did not find information about STC's business plan or funding models for its WASH work.

Save the Children appears to focus its efforts on a variety of types of direct implementation, including building water infrastructure and distributing humanitarian aid. For example, STC built solar powered boreholes in Nigeria (Jibrin, 2024), and community water points in Kenya (Kwambai, 2020).[19] In an emergency context such as Yemen, STC constructs and repairs water access points and other large-scale infrastructure (Save the Children, 2018; Save the Children, 2023a; and Save the Children, 2019).

They also recently launched a partnership with providers of an "innovative safe drinking water technology" in Pakistan,[20] with the aim of reaching 20,000 households a year, and reaching 100,000 by 2030 (Save the Children, 2024). We are unclear whether the aforementioned technology involves chlorination or some other techniques, but generally STC seems to use chlorine inside wells where necessary, as in Afghanistan, and otherwise distribute Chlorin (Save the Children, 2023b) tablets or other chlorine tabs as well as chlorination tests, as in Lebanon (Save the Children, 2022b).

Self Help Africa (SHA)

- **Intervention**: Constructing and rehabilitating water points in rural areas, and integrating water access and quality monitoring into other programs focusing on women's or children's quality of life
- **Annual funding received**: $50 million (whole organization)
- **Relevant countries of operation**: Burkina Faso, Burundi, and Nigeria
- **Chlorination:** In-well, where necessary, as in the Gambia (Self Help Africa, 2023c), but none mentioned in GiveWell's priority countries

Self Help Africa is a UK and Irish nonprofit working on improving access to food and water, and improving incomes in 15 African countries, in addition to Brazil and Bangladesh. SHA (recently merged with United Purpose, or UP) has integrated WASH programs as part of their broader work. They focus on rural areas, constructing and rehabilitating more than 18,000 water points, benefitting more than 5 million people as of 2023, with the goal of serving 2 million more between 2023 and 2027 (Self Help Africa, 2023a).

SHA operates WASH programs in several of GiveWell's priority countries, including Burkina Faso, Nigeria, and Guinea (Self Help Africa, 2023a). Of the relevant countries, we only found details on Nigerian WASH programs. The first ongoing field program we found attempts to improve various aspects of local governments' child wellbeing programs, including water monitoring (Self Help Africa, 2023b). The second supports women entrepreneurs to do social marketing for WASH products (Women's Business Centres, 2022). An additional £5 million WASH Systems for Health program was recently launched in May 2024, with a focus on improving agricultural outputs through water interventions (Kolade, 2024). From these three examples, we can see that SHA's WASH programs tend to incorporate extra objectives in addition to water-specific outcomes, such as improving child data quality and women's economic empowerment. We are not sure of the extent to which all SHA programs take such an oblique approach to WASH interventions.

We spent 30 minutes trying to find more specific details on their website, with no success. However, SHA's WASH strategy explains the country-specific strengths and niche (such as a

[19] STC advertises that as little as $125 could "help install" wells and pumps in remote areas, but do not provide more specific costing information (Save the Children, 2022a).
[20] Although Save the Children is vague on the specifics of the technology, they refer to "boxes" that each provide safe water to over 130 households, which may indicate the use of chlorine tablets.

"focus on carbon projects"), as well as major and minor project focuses (such as "Integrated and gender-sensitive WASH in schools"), for each of their WASH program countries (Self Help Africa, 2023a, p. 7).

Food for the Hungry*

- **Intervention**: Unclear, but works with mostly local staff and partner organizations
- **Annual funding received**: $186 million (whole organization)
- **Relevant countries of operation**: Burundi, South Sudan, DRC, Ethiopia, Kenya, Mozambique, Rwanda, Uganda, and others outside Africa.
- **Chlorination:** In-home, in-line chlorination (and, historically, distribution of "chlorine products")

Food for the Hungry (FH) is a Christian humanitarian aid and global development organization. Their website is particularly difficult to navigate and highly unclear about the scope of their WASH activities, but water access seems to be a relatively small proportion of the work that FH does. That said, we spent about an hour on their website and others, and found various case studies related to water access.

A 2012 USAID report stated that FH was actively involved in constructing and upgrading water points in the DRC, and further noted the distribution of "chlorine or chlorine products" (Wiater, 2010). FH's own website highlights that in Nicaragua, they built a well (Food for the Hungry, 2024) in Bangladesh, a tube well (Peterson, 2021), and in Zimbabwe, a borehole (likely 2024, Chibanda, 2024). In Bolivia, FH built multiple systems for in-home in-line-chlorinated piped water services, benefiting about 3,300 families as well as schools and health centers with clean water connections (Peterson, 2023; Deppi, 2022). Two additional interesting projects involved building "clean water systems" in Guatemala (Goodwin, 2022) and Rwanda (Forsgren, 2024), both in places with existing access to unsafe water. The latter three projects indicate a serious interest in water quality, and thus a potential to collaborate on this issue. However, we did not find any further details on these promising projects.

Food for the Hungry does not often discuss their financing model, but an anecdote about a Kenyan water point mentions the use of reloadable prepaid cards to enable local water users to cover unit costs (Zhang, 2019). We are unclear about whether this model is the standard method FH uses to improve project sustainability.

PLAN International

- **Intervention**: Building water access infrastructure and distributing purification kits
- **Annual funding received**: $839 million (whole organization)
- **Relevant countries of operation**: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Guinea, Guinea-Bissau, Mali, Niger, Nigeria, Sierra Leone, Somalia, South Sudan, and Togo
- **Chlorination:** Sometimes distributes chlorine tablets, as in Haiti (PLAN International, 2023d)

PLAN International is an organization focusing on "children and girls" in more than 80 countries, including many of GiveWell's priority countries. PLAN implements a wide range of WASH-related projects as part of their equality-focused mission.

Our impression is that PLAN has scaled down their WASH efforts over the past decade. Their 2012 report included counts of people served with water and other key metrics, but their 2023 report does not include the word water at all (PLAN International, 2012; PLAN International, 2023a). The Community-Led Total Sanitation (CLTS) Handbook (PLAN International, 2008) notes that the CLTS workstream can include "protection and maintenance of drinking water sources," but water access is not as frequently discussed as it used to be. WASH terms are also scarce on the international PLAN website and in formal reports, although they are still present in PLAN chapter reports. For example, PLAN Canada's recent annual report discusses a $16.4 million[21] effort to generate nearly 2,600 UV-purifying kits in Kenya (PLAN International, 2023b, p. 39; Solvatten, 2017).

Although WASH no longer appears to be a strategic priority, PLAN's flagship website still displays a wide range of relevant projects, including a pump in Haiti (PLAN International, 2024b), rainwater tanks in the Solomon Islands (PLAN International, 2020), a mechanized water system in Ghana (PLAN International, 2023c), and chlorination tablets in Haiti (PLAN International, 2023d). Some potentially less-relevant projects include water resource management through planting trees in Timor-Leste (PLAN International, 2024b) and a PlayPump-reminiscent Easy Pump project (PLAN International, 2012) in Bangladesh.

charity: water*

- **Intervention**: solution-agnostic, from "household BioSand Filters to piped systems" (charity: water, 2013)
- **Annual funding received**: $100 million (water/hygiene)
- **Relevant countries of operation**: Burkina Faso, Madagascar, Mali, Niger, and Sierra Leone.
- **Chlorination:** No mentions found

charity: water is an international NGO with a focus on running water projects in developing countries, with operations focused on Central and South America, Africa, and South Asia. charity: water maintains a list of ongoing projects on this interactive map (charity: water, 2022). charity: water calls itself solution-agnostic and tailors interventions on the context in close collaboration with partners (charity: water, 2013).[22]

In practice, this means it deploys different types of water infrastructure (including pumps, chlorination dispensers, and pipes). In a 2013 water quality intervention, charity: water installed biosand filters in a small number of households in Mreah Prov, Cambodia (charity: water, 2015). They partnered with a local organization to determine demand for these filters, teach users how to maintain them, and hold workshops on hygienic practices. Households were charged a small fee for filter installation, though we could not find information on the exact amount.

Lantagne highlighted that she knew that charity: water uses remote monitoring technology to improve sustainability by making maintenance issues easier to detect. She also mentioned the use of circuit riders—people who run around communities to check on and repair installed water infrastructure (e.g., water access points)—as a popular intervention for charity: water (and others), though we did not do additional research to identify these interventions.

[21] This may refer to Canadian dollars. We did not look further into it.
[22] According to their website, they deploy solutions on the basis of community needs from "household BioSand Filters to piped systems" (charity: water, 2013).

We could not find information on any other water quality interventions that explicitly mentioned chlorine,[23] though we suspect they might be willing to engage on this issue since they bill themself as solution-agnostic (charity: water, 2013).

Inter Aide*

- **Intervention**: Digging water access infrastructure, promoting chlorination, and building local sectors in infrastructure maintenance and chlorine supply chains
- **Annual funding received**: $14 million (whole organization) (bakertilly, 2023)
- **Relevant countries of operation**: Madagascar, Sierra Leone, Ethiopia, Malawi, Mozambique, Haiti, and Guinea
- **Chlorination:** Distributes chlorine, promotes household chlorination, and works to set up chlorine supply chains

Inter Aide is a development aid charity that focuses on poor rural families. They focus on WASH as one of their four key program fields, which also include agriculture, health, and education (Inter Aide, 2011). Inter Aide's WASH programs operate in seven countries,[24] including Madagascar, Sierra Leone, and Guinea, and they helped nearly 100,000 beneficiary families in 2021 through 50 programs (Inter Aide, 2017).

Inter Aide's field work includes a broad range of WASH-related activities, with specific reference to effectively reducing child mortality (Inter Aide, 2017). Their interventions include digging wells and boreholes, as well as spring catchment and gravity-fed systems. They also promote household chlorination and other hygiene activities, and set up "water point committees" to manage the built infrastructure. Inter Aide's sustainability efforts also extend somewhat further than some organizations assessed in this report, as they include sector development through mechanic and service shops and community diagnostics (Inter Aide, 2017).

Inter Aide commonly partners with local community associations and government agencies, such as regional water and sanitation services (Inter Aide, 2023). We are unclear what the nature of such partnerships is in practice, and after spending about 40 minutes on their website and program documentation, we did not find reference to any particular business model or funding structures that Inter Aide uses.

Additional organizations

This section details 10 additional potentially promising organizations based on publicly available information, and on recommendations from GiveWell and our expert interviews. We have defined "promising" as follows: an organization must at least work in the specified geographies of interest, allocate a substantial amount of their attention to WASH-related work, and have a functioning website with mentions of chlorination and up-to-date financial information.

[23] We searched for key terms (and variations therefore) on the web and within the organizational website: chlorine, Aquatabs, in-line.
[24] Ethiopia, Madagascar, Malawi, Mozambique, Sierra Leone, Haiti, and Guinea.

1001fontaines*

- **Intervention**: Establishing small-scale rural water production facilities run by local entrepreneurs to ensure access to safe drinking water
- **Annual funding received**: $1.92 million (water/hygiene)
- **Relevant countries of operation**: Madagascar (21% of allocated funding in 2023), also works in Cambodia, Myanmar, Vietnam, and France
- **Chlorination:** Likely not used, but other purification methods are emphasized

1001fontaines is a nonprofit dedicated to providing financially sustainable access to safe drinking water in underserved communities, focusing on empowering local entrepreneurs in a small set of mostly former French colonies.

Since 2008, 1001fontaines has worked in urban areas of Madagascar, distributing clean water from centralized production facilities through local points of sale. They distributed more than 8 million liters of clean water to 35,000 people in 2023, generally selling the water for around 2 cents/liter, but also working with local partners to distribute free drinking water for the poorest communities (1001fontaines, 2023, p. 6, extrapolated,[25] and p. 10).

1001fontaines does not explicitly discuss its purification methods, but it appears that at least some of their work involves methods other than chlorine, which is not mentioned on their website except for its disadvantages. For example, a 2020 document mentions that its local partner Ranontsika makes the public aware that it's possible to "purify water in another way than boiling it and treating it with chlorine" (1001fontaines, 2019), and a Cambodian project highlights the comparative desirability of their local partner's water in comparison with the chlorine taste of local tap water (1001fontaines, 2020). One academic study on a 1001fontaines project refers to the water in the relevant project having been processed with "filtration and ultraviolet disinfection" (Hunter et al., 2014, p. 1).

BRAC*

- **Intervention**: Somewhat unclear, but includes "inclusive financing," selective water access infrastructure installation, WASH entrepreneurship support, and hygiene training
- **Annual funding received**: $5.5m (water/hygiene)
- **Relevant countries of operation**: Sierra Leone and South Sudan; WASH activities may only be in Bangladesh
- **Chlorination:** Promoting household chlorination in Bangladesh

BRAC is an international organization that describes itself as a "social enterprise, NGO, public forum, knowledge hub, social investors, policy advocate, and university" (BRAC, 2018a). It's therefore difficult to parse exactly how they would position themselves as a WASH sector actor, but water-related interventions are often implemented alongside other programs such as the Integrated or Urban Development Programmes (IDP and UDP, respectively). For example, in Bangladesh, BRAC describes IDP as "support[ing] delivery of WASH programme interventions," while UDP "provided access to safe drinking water for 54,047 people between 2018 and 2022 through establishing drinking water facilities in urban areas" (BRAC, 2023).

[25] The report says that the 1001fontaines and its local partner, Ranontsika, sold 1,150 twenty-liter jerricans per day on average, which would be 1,150*365*20=8.395 million liters per year.

BRAC describes their work as following a "multidimensional approach ranging from developing WASH markets to building partnerships with local governments for improving solid and fecal waste management" (BRAC, 2020). BRAC claims that their work has benefited 2.77 million people with access to safe drinking water, although we did not find the geographic area or timescale that this figure refers to (BRAC, 2020). Many of the website's references to WASH programs focus on the organization's Bangladesh operations, and we suspect that much of BRAC's WASH work is focused there. However, they do list other countries (BRAC, 2018b), including Sierra Leone (in which we found one reference to fixing a borehole) and South Sudan (BRAC, 2011).

BRAC's work includes "promoting" water points (including deep tube wells, rainwater harvesting, and water treatment plants), providing household-level WASH loans, and "develop[ing] WASH entrepreneurs" (BRAC, 2021). For rural areas in particular, WASH HtRAs (hard-to-reach areas) was a BRAC program in Bangladesh that was implemented from 2016 to 2020. It is the only BRAC program we found that incorporated the distribution and promotion of chlorine to purify water (icddr,b, 2022).[26] Overall, the HtRAs program focused on an "inclusive financing model" but also included selective infrastructure installation such as wells, tanks, pumps, water treatment units, and even piped water systems (icddr,b, 2022). We were not able to tease out the specific business model or connection between the various interventions listed in this model design.

SPLASH*

- **Intervention**: Co-funding with local government to install commercial filtration systems in schools
- **Annual funding received**: $8.8 million
- **Relevant countries of operation:** Nepal, China, India, Ethiopia, Cambodia, Bangladesh, Thailand, and Vietnam
- **Chlorination:** Aquatabs, possibly others

SPLASH is an international NGO focused on WASH interventions and menstrual health solutions for urban children and young people across the developing world. It has operations in Nepal, China, India, Ethiopia, Cambodia, Bangladesh, Thailand, and Vietnam.

SPLASH appears to prioritize co-funding with local governments to improve water infrastructure in schools.[27] Specifically, SPLASH installs commercial ultra-filtration water systems manufactured by Antunes and provides water purification tablets from Aquatabs to schools in areas of high need (Splash, 2021a). It also provides training so that the filtration systems remain in operation. SPLASH also has a social enterprise spin-off that has developed its own drinking and handwashing stations, though the business model is unclear from the website (Splash, 2021b).

[26] A complete description of the intervention design can be found in section 2.2 of the BRAC HtRA evaluation (icddr,b, 2022).

[27] In various examples on their website, Splash notes that they have had to exit projects because of lack of government funding. They do, however, seem to fund maintenance and operation of systems they install after they have left. An example from their website: "Splash partnered with SSM: Kolkata, the equivalent of the municipal department of education, to improve school WASH conditions. Despite strong support from the SSM Chairperson, we were ultimately unable to unlock funding from the West Bengal Department of Education. In 2021, due to the lack of government co-investment, we made the difficult decision to wind down operations in India. With all new investments in school infrastructure completed at the end of 2022, we are now focused on ensuring sustainability for the 361 Project WISE schools" (Splash, 2024).

CAWST*

- **Intervention**: Free learning resources and (free and paid) workshops on WASH topics, and consulting services for organizations seeking to implement WASH products and services
- **Annual funding received**: $8 million (water/hygiene)
- **Relevant countries of operation**: Likely all of GiveWell's priority countries
- **Chlorination:** No mentions found

CAWST is a nonprofit organization that provides technical assistance and resources to organizations wishing to implement WASH programs in low-income communities across the world. Lantagne suggested that CAWST used to focus on actual interventions using biosand filters, but that it has shifted resources to broader technical assistance. Our research confirms this and shows they deploy resources in three ways. First, they offer free learning resources in multiple languages on their website (CAWST, 2022). Second, they conduct in-person workshops as well as facilitated and self-directed online courses on many WASH topics at various price points.[28] Third, they offer consulting services to other organizations promoting water and sanitation in developing countries (CAWST, 2021). The scope of topics covered is broad, including everything from generating demand for WASH products and services to securing funding for such projects, to monitoring and evaluation interventions.

We found it difficult to obtain intervention-level detail on any of these types of engagements on CAWST's website or through targeted searches.[29] We did uncover extensive references to chlorine in their resources webpage, but these were tools and resources for organizations interested in implementing water quality interventions. We believe the easiest way to get concrete examples of CAWST's work would be to speak with them directly.

WaterStep

- **Intervention**: Trains people in chlorination, bleach making, and well operation and repair
- **Annual funding received:** $1.2 million (water/hygiene)
- **Relevant countries of operation**: Currently marketing projects in Nigeria, also operates in Kenya, Ecuador, Uganda, Liberia; the full list from its 2022 Annual Report includes Burkina Faso, Cameroon,, Democratic Republic of Congo, Madagascar, Nigeria, Niger, Sierra Leone, Somalia, South Sudan (WaterStep, 2022)
- **Chlorination:** Trains people in how to use chlorine products and how to produce bleach

WaterStep is a training organization that focuses on teaching people a variety of WASH-related skills, including bleach making, health education, well operation and repair, and the use of chlorination to purify water and for cleaning (WaterStep, 2016). They have expanded from doing field-based education to remote trainings via digital technology, and also offer a small suite of products available to help interested people implement WASH interventions in their own communities (WaterStep Shop). WaterStep's bleach-making products and trainings help people to convert saltwater into sodium hypochlorite, which can then be used to disinfect drinking water or for cleaning (WaterStep, 2023).

[28] These courses cover a range of WASH topics. For example, we found a free, online course about water quality testing for inexperienced humanitarian workers in Asia (CAWST, 2024a). By contrast, an in-person community WASH promotion course in Kenya costs $80 (CAWST, 2024b).

[29] We spent 10 minutes looking on their website and online for the following key terms: CAWST, program, final report, chlorine, water quality.

As of 2022, WaterStep claimed their trainings had impacted the lives of 8.6 million people. The organization has seen rapidly expanding numbers of projects and partnerships around the globe, topping 600 international projects in 2022 (WaterStep, 2022).

Adeso*

- **Intervention**: Sector building work to create social enterprises
- **Annual funding received**: $3.6 million (whole organization)
- **Relevant countries of operation**: Somalia and South Sudan
- **Chlorination:** No mentions found

Adeso is a humanitarian NGO operating in Somalia, Kenya, and South Sudan. Adeso appears to be focused on spinning off social enterprises to deliver different products, including back-office services (e.g., procurement, payroll, compliance) for local civil society organizations seeking foreign funding.

With regards to water, Adeso launched Durdur Water Enterprise (Adeso, 2022a), which aims to provide water to rural communities across Somalia by drilling boreholes, treating the water, and piping the water supply directly to users (F6G, 2024). Durdur aims to offer these services at lower rates than currently available (Adeso, 2022b). We were unable to find details on the ways the water was treated or the number of households reached.[30]

Tearfund

- **Intervention**: Building infrastructure (gravity-fed, irrigation pipes, etc.), organizing local communities to fund and maintain infrastructure, advocating for public support, and sometimes distributing "purification tablets"
- **Annual funding received:** $118 million
- **Relevant countries of operation**: Somaliland
- **Chlorination:** Distributes water purification tablets in humanitarian contexts, but no work mentioned in development or in-line contexts

Tearfund is a Christian humanitarian organization that works on water access as part of its broader development agenda. According to Tearfund, their water programs "cover the choice of water source, water source development, abstraction (taking water from the source), transporting the water to the community, water treatment (where necessary), and water quality testing" (Tearfund, 2024).

Tearfund's published guide on water captures examples of the charity's wide-ranging water access projects (Tearfund, 2023a). The guide also includes a brief mention of chlorination as one method of water disinfection (p. 24). Although Tearfund sometimes distributes water purification tablets in humanitarian contexts, as in Mozambique (Tearfund, 2019a) and Yemen (Tearfund, 2019b), their website and external documentation mention no chlorination in development or in-line contexts.

In one district of Kenya during 2011-12, Tearfund drilled a well and also restored two older wells. Along with "water purification tablets," these activities provided clean water to over 8,000 people (DEC, 2011). Another project saw Tearfund constructing a gravity-fed water system to

[30] We spent roughly 10 minutes conducting web searches with the following keywords: Durdur Water Enterprise, Somalia, water treatment, chlorine.

supply several villages in the DRC (Tearfund, 2018a). In Somalia, they built concrete irrigation gutters to help local farmers improve their agricultural yields and consistency (Tearfund, 2018b). In partnership with an organization referred to as ODE, they advocated for local funding for water pumps in Burkina Faso (Tearfund, 2018c).

SNV

- **Intervention**: Large-scale projects with a holistic approach, including nutrition and agricultural output, in addition to WASH activities. WASH work includes building access infrastructure such as boreholes and "autonomous water supply systems."
- **Annual funding received**: $178 million (whole organization)
- **Relevant countries of operation**: Burkina Faso, Mali, and Nigeria
- **Chlorination:** Unclear if they use it themselves, but they provide guidelines for its use

SNV describes itself as a "global development partner, deeply rooted in the countries where we operate." SNV's web pages for Burkina Faso (SVN, 2023a), Mali (SVN, 2019), and Nigeria (SVN, 2023b) all discuss water-related projects. However, we only found details for two projects in Burkina Faso, both funded by the Swedish Export Credit Agency (EKN). MODHEM+ (SVN, 2023c), a five-year €9 million project to benefit 790,000 agro-pastoralists, started in 2020 in collaboration with Development Design Consultants Limited (DDCL, 2022). The project provides satellite-based data, including information on water availability, and constructs infrastructure, including solar-powered boreholes.

ECDD, a €12 million project with the same funder and timeline as MODHEM+, is focused on "strengthen[ing] water management institutions" and "enhanc[ing] food security and market access," in collaboration with World Waternet (SVN, 2023c). SNV reports that by halfway through the project, 10 boreholes and three "autonomous water supply systems" had been constructed, bringing water access to 27,000 people (SNV, 2021a).

We did not find specific reference to SNV's business models, but it appears that they work directly with country governments, such as Burkina Faso's Minister of Water and Sanitation, who signed a partnership agreement for ECDD (World Waternet, 2021). In addition, SNV reports working with multiple water agencies, water committees, communes, and agricultural organizations (SNV, 2021a).

SNV's water quality guidelines (SVN, 2018) include information on the testing and use of chlorine for water purification, and their standard operating procedures (SNV, 2021b) for healthcare facilities including the use of chlorine for drinking water in addition to cleaning. However, we did not see reference to SNV directly using or distributing chlorine as part of particular programs.

Aquaya*

- **Intervention**: Research to support WASH work
- **Annual funding received**: Not investigated
- **Relevant countries of operation**: Not investigated
- **Chlorination:** Supports public-sector implementation

Aquaya describes itself as a "nonprofit research and consulting organization" focusing on WASH as a method of advancing global health. According to Gunstensen, Aquaya does action research that often leads them to test new implementation approaches. One example of this

work is setting up rapid performance-based testing labs to identify *E. coli* in contexts without easy access to a lab. Lantagne also mentioned Aquaya as a potentially important water quality organization.

Due to Aquaya's research focus, we deprioritized a detailed investigation of their implementation model, though we note that Lantagne mentioned Aquaya's work in supporting governments to engage in chlorination (funded in part by the Gates Foundation and USAID).

Uduma*

- **Intervention**: Engage in PPPs with local authorities to manage, maintain, and collect revenues on infrastructure
- **Annual funding received**: Not available (private company)
- **Relevant countries of operation**: Mali, Burkina Faso, Côte d'Ivoire, and Benin
- **Chlorination:** Not at the moment, but they have indicated interest

Uduma is a private company managing rural water services (handpumps, solar pumps, and piped networks) under formal PPPs with local authorities. They operate in Mali, Burkina Faso, Côte d'Ivoire, and Benin. Although operating as a firm, Uduma receives support from funders such as the Ministry of Foreign Affairs of the Netherlands, Aqua for All, AKVO, and SNV (Uduma, 2021).

Given GiveWell's existing relationship with Uduma, we did not spend much time exploring the organization's work. However, we did find that Uduma appears to directly hire and train maintenance personnel, given its reference to "local pump caretakers, mechanics and sales agents" who receive on-the-job training. In addition, Uduma's parent organization, Odial Solutions, puts out an annual report with many useful case studies to give more detail on Uduma's work in their target countries (Odial Solutions, 2023). With more time, we would have reviewed this document to pull out more specific case studies describing exactly how Uduma's model works. At the moment, we believe that Uduma may be a promising implementing partner, based on their apparent interest in incorporating in-line chlorination in GiveWell's priority countries.

Due to the time constraints of this project, we limited our exploration of potentially promising organizations. We encourage the interested reader to refer to our spreadsheet for a more comprehensive overview of the WASH sector.

Funding for water programs

To identify relevant funders in the water sector, we first created a longlist by reviewing the WASH Funders Group, interviewing experts, and conducting desk research. We then collaborated with GiveWell to prioritize a subset of organizations to research more deeply—collecting information in the same spreadsheet—and to select a smaller subset to review in this report. GiveWell expressed particular interest in understanding funding from the United Nations Children's Fund (UNICEF), the World Bank, and the UK's Foreign, Commonwealth and Development Office (FCDO), so we conducted deeper research into these organizations. We also identified the United States Agency for International Development (USAID), the Asian Development Bank (ADB), the Chinese government, and the World Health Organization (WHO) as large program funders and did a more shallow review of their funding in this space.

Our best guess is that the World Bank provides the most financial support—sometimes as loans and sometimes as grants—to the water sector in GiveWell's priority countries in sub-Saharan Africa, approving an average of around $500 million in loans or grants each year from 2019-2023 related to water supply. We also believe the Asian Development Bank is a major funder in Asia, investing roughly $750 million in WASH grants and loans across Asia, with some share of funding going to South Asia.[31] The Chinese government appears to have been a historically large funder of water infrastructure across Africa in the last 10 years, though it seems to have sharply cut back on spending, leading us to believe that it could continue to spend very little (if anything) over the next few years, but could ramp up very quickly (to the high hundreds of millions, if not their historic high of $1.5 billion).

Our research and experts suggest that USAID's annual WASH funding is between $400 million and $1 billion, though we cannot disentangle what proportion is going specifically to GiveWell's priority countries. We have moderately high confidence that FCDO's WASH funding will be around $100 million a year over the next few years.[32] Only one of the FCDO's projects funded in 2023 was in a priority country.[33]

We are quite uncertain about UNICEF's and WHO's relevant funding, but we would guess UNICEF's water sector funding is in the low hundreds of millions and that WHO's is in the low millions. Other funders and foundations working directly on water interventions in sub-Saharan Africa and South Asia, including Aqua For All, the Stone Family Foundation, and the Conrad N. Hilton Foundation, each appear to spend between $10 and $40 million a year. Finally, Grand Challenges Canada makes funding available for health interventions in the developing world. They budget up to $2.07 million in awards for health sector innovations, though we would expect only a small share of this would actually go to water interventions, leading to our best guess of around $100,000 a year, making it unlikely that they provide funding on par with other organizations listed here.

Information on all of these funders is summarized in Table 1. In a first pass, we attempted to calculate the amount of funding geared towards GiveWell's priority countries for water programs. This was not possible for all organizations without making large assumptions for two reasons. First, many organizations do not report country-level figures. Second, even if they do, they do not often break down WASH funding into specific programs. In practice, this means that where we found sufficient information to make educated guesses of specific funding for water quality interventions, we did so; otherwise, we provided high-level WASH funding figures. (We highlight this in the table.) We provide details on our estimates in each of the subsequent sections. The consequence is that some of these numbers are not directly comparable.

[31] We do not provide a write-up of the ADB in this report, but have written up a short case study in the funder longlist.
[32] Our estimates of the UK's WASH funding were $115 million in 2022 and $75 million in 2023. See the FCDO section below for more detail.
[33] Nigeria as part of the Water, Sanitation and Hygiene Systems for Health initiative. See the FCDO section below for more detail.

Table 1: Major funders identified, funded activities and regions, and estimated annual funding

Funder	Primary objective	Overlap with GiveWell's priority countries (PC)	Estimated annual USD
World Bank	Improving rural and urban access to water; building, upgrading infrastructure, improving gov/utility capacity, institution strengthening	Benin, Burkina Faso, Cameroon, Chad, Guinea, Madagascar, Mali, Niger, Nigeria, Somalia, Togo	**Funding to PCs:** ~$500 million *(moderate to high certainty)*
UNICEF	WASH services for children, especially in humanitarian contexts; e.g., building pumps, sanitation facilities, etc.	Presumably operating in all PCs	**Global WASH and environment spending:** $1.25 billion (*high certainty*)
WHO	Technical assistance (including water quality guidelines), water quality testing, WASH in healthcare facilities	Presumably operating in all PCs	**Water quality funding to PCs:** ~$1 million (*low certainty*)
USAID	Capacity building, technical assistance	Madagascar, Mali, and Nigeria	**Global WASH funding:** ~$1 billion *(high certainty)*
UK FCDO	Supporting large-scale, system-wide initiatives, institutional strengthening, technical assistance	Nigeria	**Global WASH funding:** $100 million *(moderate to high certainty)*
Chinese government	Large-scale development funding for water infrastructure	Benin, Cameroon, Niger, Nigeria	**Global WASH funding:** $0-800 million *(moderate certainty)*
Aqua for All	Innovation and incubation of sustainable social enterprises in water interventions	Burkina Faso and Mali	**WASH funding:** ~$38 million (*moderate certainty*)
Grand Challenges Canada	Innovation and support for social enterprises	No specific priorities	**Our guess of available grants to water interventions:** up to $100,000 (*low to moderate certainty*)

Stone Family Foundation	Investments in market-based approaches to the provision of water services	None (work focused on Ghana, Kenya, Uganda, Rwanda, Ethiopia, Cambodia, and Bangladesh)	**WASH funding:** $10-15 million (*moderate to high certainty*)
Conrad N. Hilton Foundation	Systems-level WASH interventions, institutional strengthening	None (work is focused on Ethiopia, Ghana, and Uganda)	**WASH funding:** $13 million (*moderate to high certainty*)

Note. We selected this list of funders from our interviews with experts. We detail more information on these and a broader list of funders here. Non-governmental and intergovernmental organizations are in light gray, government donors with significant aid spending are in dark gray, and philanthropic funders are in cyan. Details on our estimated annual funding numbers can be found in the upcoming relevant sections for each of these organizations; for ADB, please consult our spreadsheet. It is possible we did not capture all relevant funding.

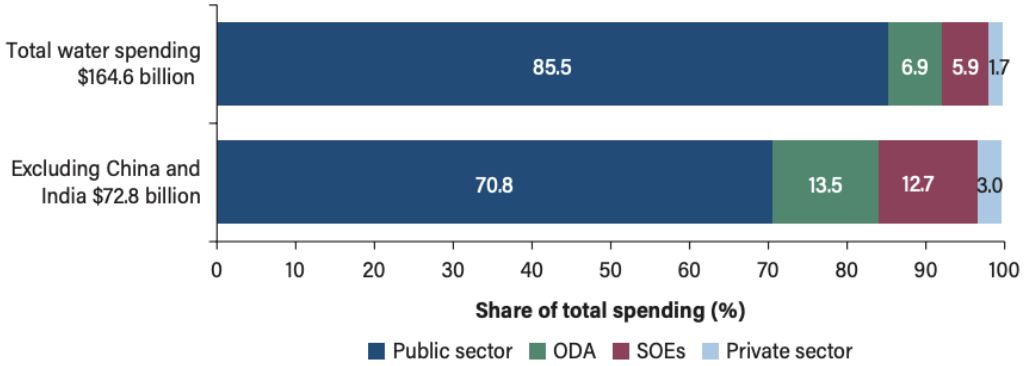
In the following sections, we describe our research into global funding estimates and provide details on the funding strategies and programming of select groups of influential funders in the water and WASH sectors, including multilateral organizations, governments, and foundations.

Global funding estimates and resources

The World Bank's *Funding a Water-Secure Future: An Assessment of Public Spending* report collects data from multiple sources to get 2017 estimates on the amount of spending on the water sector globally (i.e., including spending across all countries, including high-income economies; Joseph et al., 2024). The report makes various helpful distinctions. First, the type of spending is categorized as either supporting water supply and sanitation, water transportation, irrigation, or hydropower. Second, the funding source is categorized as either coming from public[34] or private sources, or from official development assistance (ODA).[35] The report shows that 91% of funding for the water sector comes from domestic public sources, followed by ODA with 7% of funding. Note that the report does not mention philanthropic funding. Figure 1 shows this distribution graphically.

[34] By public spending we mean local government expenditures (e.g., Nigeria investing in its own water infrastructure directly).
[35] Joseph et al. (2024) defines ODA as "foreign aid that takes the form of (i) bilateral financial assistance from the governments of donor countries, or (ii) low-interest loans and grants from multilateral financial institutions, provided to support the economic development and welfare of developing countries" (p. 126).

Figure 1: Share of sector spending in the water sector globally



Note. Figure ES.5 from World Bank (Joseph et al., 2024, p. xxxv).

The total amount of spending in the water sector, for all countries and from all sources, was roughly $164.6 billion in 2017, with roughly half—about $80-90 billion—in water supply and sanitation (p. xxx).[36] About $70 billion of the total is spent in China and India. Using the report's numbers, we estimated that the amount of funding from ODA going to sub-Saharan Africa and South Asia for water and sanitation programs was roughly $1.74 billion and $1.28 billion, respectively.[37] The report does not break down water and sanitation programs further, so we do not have specific numbers on the amount going to chlorination. We do not have strong priors on whether and how the overall spending would change for 2024.

Experts' estimates of global funding for water programs were of low confidence, and most tended to point us to official sources. OECD's CRS database reports approximately $3–4 billion annually in official development assistance (ODA) for WASH, with water-specific funding comprising a subset of this amount (OECD 2024). The World Bank estimates total ODA for water at around $12 billion, though this may include agricultural water projects (Joseph et al., 2024). Additionally, there is little detailed data available on funding for chlorination, though some estimates suggest it is underfunded (e.g., below 1% of total WASH funding). Experts also could not pinpoint any individuals who have significant global awareness of the sector, and several experts with whom we spoke were too uncertain to offer an estimate of global funding when asked.

Our experts expressed more consensus around the share of spending going to water quality. Experts noted that it is challenging to separate funding for water access from funding for water quality, as many organizations do not explicitly distinguish between the two. Infrastructure improvements that enhance access often also contribute to improved water quality, leading

[36] "Annual spending on water is $164.6 billion in developing countries, which amounts to roughly 0.5 percent of their GDP. While roughly 91% of the annual spending on water above comes from the public sector, including public spending by the government and the SOEs, only less than 2% comes from the private sector. Countries need to increase their spending in the WSS subsector by US $131.4 to US $140.8 billion annually—almost tripling current expenditure levels. This global average, however, masks the stark heterogeneity across different regions and country groups. Sub-Saharan Africa and South Asia face the largest spending gaps" (World Bank, 2024).

[37] Official development assistance accounts for roughly 7% of all spending in the water sector worldwide, or $11.7 billion. The amount of ODA spending that goes to water supply and sanitation is roughly 58% or $6.7 billion. We assume that Africa and South Asia have the same ratio of ODA to water supply sanitation as the global giving (58%.) Therefore, if ODA going to sub-Saharan Africa and South Asia is $3 billion and $2.1 billion respectively, we can multiply these numbers by 58% to obtain the expected amount of funding going to those initiatives in those countries. Since these are countries of highest need, we can think of this number as a floor.

organizations to consider them together. Additionally, there is limited transparency regarding the specific technologies and benchmarks used for microbiological water treatment, and organizations rarely report direct microbiological contamination metrics.[38] Lantagne suggested that very little funding is going to water quality, and that there is no large-scale donor funding for chlorination. She suggested that more money is directed toward chlorination than filtration, and that most of this funding is through GiveWell (though it used to come from the Gates Foundation and USAID). Funding for household water treatment collapsed in the 2000s due to critiques around lack of sustainability and a push for government ownership of water projects following the Millennium Development Goals (MDGs), which aligns with a sustainability push among implementers.

The UN's GLAAS Survey provides updates on WASH expenditures from participating countries (from all sources),[39] with the most recent publication covering the 2021-2022 cycle (see Chapter 5 of the WHO, 2022a, pp. 28-37). An expert pointed us to this report near the end of our project, so we did not review it in detail. We searched for chlorination and water treatment (in the context of drinking) within the document and could not find any insights on spending on these matters. We did take away that spending on drinking water (vs. sanitation) seems to be quite high in the countries in their sample (a 60-40 split in favor of drinking water), and suggest that GiveWell take a look at this resource for more insights.[40]

Multilateral organizations

World Bank

Amount of annual funding: ~$500 million to water supply in GiveWell's priority countries (moderate to high certainty)[41]
Target geographies: Low- and middle-income countries globally, including sub-Saharan Africa and South Asia, and all of GiveWell's priority countries
Project type: Grants and loans to sovereign states, often then passed on to government subnational units or government agencies to execute infrastructure projects

The World Bank has a "portfolio of water investments of almost $30 billion" (World Bank, 2023a) and deems itself the "world's largest multilateral source of financing for water in developing countries" (World Bank, 2023a).

[38] SDG 6.1 specifies that water should be "free from microbiological contamination," but it does not prescribe a standardized test or metric for determining this, and we are not familiar with how SDG 6.1 is interpreted in practice. As a result of this ambiguity, one expert noted that many water points may be classified as "improved" or "safely managed" without direct testing for contamination. One expert suggested that data from sources such as the WHO/UNICEF Joint Monitoring Programme (JMP) and MICS may come to show that some water sources categorized as "safely managed" may still contain contaminants.
[39] That is, including both domestic government expenditures, user fees, and external support (ODA).
[40] The report breaks down the estimated costs of plans and strategies for (urban and rural) drinking water versus sanitation (p. 29), the gap between financial resources secured and those needed to meet targets (p. 30), WASH budgets across countries in total and per capita (p. 31), cost recovery (p. 33), and breakdown of total expenditure by source (p. 36). Reported WASH expenditures tend to focus more on drinking water (76%) than sanitation (22%) and hygiene (2%) in the most recent survey, up from 53-58% in the prior three GLAAS cycles dating back to 2013.
[41] We identified $2.6 billion going to GiveWell's priority countries in the period 2019-2023. We looked for grant/loan allocations under its "water supply" project filter. We then divided this by 5 (years) to arrive at our estimate of ~$500 million a year.

In its full database of projects, there are 1,015 "water supply" projects and 1,362 "other water supply, sanitation, and waste management" projects. We downloaded all water supply projects into a spreadsheet to explore these projects further. Of the 1,015 "water supply" projects, 100 (<10%) are in the 16 countries of most interest to GiveWell. The total grant amounts—i.e., funding from a party that is not the recipient country or the World Bank—to these projects is just shy of $450 million, while total International Bank for Reconstruction and Development (World Bank, 2014) commitments are almost $497 million for all projects from 1984 to present, the most recent of which have not yet been approved.

Crucially, the spreadsheet does not contain data on International Development Assistance (IDA) commitments, so we manually added these for all Bank-approved projects in GiveWell's priority countries in the last five years (2019-2023) to get a sense of recent funding trends. In total, the World Bank has allocated IDA funding totaling over $2.6 billion to 10 projects (most ongoing) to GiveWell's priority countries in the last five years. Commitments per project averaged $262 million and ranged from $70 million to $400 million. The breakdown of this funding across year and country can be found in Table 2.

Table 2: IDA funding in GiveWell's priority countries 2019-2023 (millions USD)

Country	2019	2020	2021	2022	2023	Grand Total
Federal Republic of Nigeria			$700			$700
Republic of Benin				$250		$250
Republic of Chad			$0			$0
Republic of Madagascar		$189		$220		$409
Republic of Mali				$250		$250
Republic of Niger	$350		$400			$750
Republic of Togo				$100	$100	$200
Somali Democratic Republic				$70		$70
Grand Total	$350	$189	$1,100	$890	$100	$2,629

Note. Data from the World Bank, available here.

Only one of six projects featured on the World Bank's water overview webpage is in sub-Saharan Africa (specifically Burkina Faso; World Bank, 2023a). The program—called the Urban Water Sector Project—was approved in 2009 and closed in 2019. It focused primarily on urban water supply (including production, distribution, and storage, depending on the urban context; 60%), and to a lesser extent, sanitation (30%) and administrative capacity building (10%; World Bank, 2019). The total project cost of almost $93 million included an IDA grant of $80

million and recipient funding of $12.9 million. The World Bank highlights project cost recovery and improved utility performance as successes of the program.[42]

To provide additional detail on World Bank funding and implementation practices, we examined all projects on the Banks' water overview page (World Bank, 2023a).[43] This entailed skimming over the most important project documents for each of the six projects.[44] Based on a review of these documents and the Bank's website, we address our understanding of how World Bank financing works in practice, and who typically implements World Bank programs in turn.[45]

With regards to financing, the World Bank deploys capital via one of two instruments: loans or grants. According to the World Bank (2021), loans have a "medium to long-term (5- to 10-year horizon) and support a wide range of activities including capital-intensive investments, agricultural development, service delivery, credit and grant delivery (including micro-credit), community-based development, and institution building."

Details on loan terms are difficult to gather from the documents reviewed. Some loan documents specify nothing at all beyond the loan amount; others specify the rate, term, and any additional details. For example, a project document (World Bank, 2012a) for a loan (World Bank, 2024) to the People's Republic of China (PRC) states that the PRC opted for a spread loan with maturity of 30 years and a 5-year grace period.[46] The project also notes that the PRC on-lent to the provinces that implemented the program. All loans appear to require a down payment or "member contribution." The range of each member's contribution varies significantly from project to project, from 10-50% of the total project cost.[47]

In the documents we examined, grants came from either World Bank funds or through multi-donor trust funds managed by the Bank. We did not examine what the difference between these mechanisms is in practice.[48] Bank grants are smaller in size than loans. Whereas loans were in the range of hundreds of millions of dollars, the largest grant we came across was for $50 million. In some instances, participating countries contributed to project costs; in others, they did not.

[42] "ONEA (Office National de l'Eau et de l'Assainissement), Burkina's state-owned urban water and sanitation utility, is today ranked among the top performing water utilities in Sub-Saharan Africa, with full recovery through revenues of operation and maintenance cost and debt service and partial contribution to capital expenditures, with a staff productivity of 2.9 staff per 1000 connections and a bill collection ratio of 97.7 percent" (World Bank, 2023a).
[43] While this sample may not be exhaustive of the types of projects the Bank does, we find it reasonable to assume that they exemplify what the Bank would consider to be "good" projects that other member countries might be interested in pursuing.
[44] Namely, we examined the Project Appraisal Documents (PADs) for each of the six projects. These are the documents prepared by Bank staff for submission to the Banks' Board of Executive Directors for consideration and approval of the loan or grant.
[45] We believe this is generally how the Bank operates and it is not specific to the water sector.
[46] This is within the normal parameters of loan rates and terms published on the Bank website. Note that there are concessional terms for some small economies.
[47] In the sample of projects we assessed, a project in India entailed a borrower contribution of roughly 10% (World Bank, 2007), whereas a project in the PRC entailed a borrower contribution of almost 50% (World Bank, 2012b).
[48] It would seem very little since both types of grants need to be approved by the Board of Executive Directors. We are thinking about these trust funds as earmarked spending to support specific global causes.

As regards implementation, across all example projects, national governments (or their equivalents) are the main borrowers from the Bank.[49] Thereafter, specific government agencies, ministries, or subnational units execute on the project with loan funds. Some of this work entails hiring other entities, including private companies, to implement part of the work. For example, in an urban sanitation project in Panama (World Bank, 2010), the Government of Panama was listed as the main borrower, but the implementing agency was the Panamanian National Water and Sewer Agency (NWSA). As part of the project activities, NWSA hired other private providers to develop a water supply and sanitation master plan for the program areas, prepare engineering designs and related bidding documents for commissioning of works, and build the required infrastructure. In executing Bank funds, implementers are constrained by Bank policies on contracting (World Bank, 2023b), conflicts of interest, and other matters.

Finally, in our review, we noted that all projects funded by the Bank had a technical support, capacity building, or institutional support component. The type of activities that are supported here include workshops, trainings, "study tours" of countries operating under similar conditions, and physical equipment and office supplies. The share of funding going to these activities ranged from 1%-20% of the overall budget.

United Nations Children's Fund (UNICEF)

Amount of annual funding: $1.25 billion to a joint WASH and climate/environment goal area (high certainty)
Target geographies: Sub-Saharan Africa and Asia
Project type: Child-focused WASH programs (including chlorination), emergency water supply, and sanitation services in schools and healthcare facilities

UNICEF defines five Goal Areas in its 2023 Annual Report (UNICEF, 2023), where Goal Area 4 is that "[e]very child has access to safe and equitable water, sanitation, and hygiene services and supplies, and lives in a safe and sustainable climate and environment" (p. 16). The report provides a Goal-specific budget of $1.25 billion in 2023 and shows that over half of all program expenses were allocated to sub-Saharan Africa and Asia. We are unable to further parse the budget for Goal Area 4 across various program objectives, nor across regions. Additionally, UNICEF established a funding mobilization program in 2021 focused on water investments in Africa that aims to leverage $30 billion annually—the "water investment gap," it claims is necessary to achieve SDG 6—by 2030 (Continental Africa Water Investment Programme; AIP, 2023).

Based on a number of relevant hits in our desk research, several UNICEF projects align with GiveWell's interests in the water sector, including UNICEF's involvement in at least some level of direct chlorination interventions. For instance, it discusses distribution of chlorine tablets to households in emergency contexts (UNICEF, 2020a),[50] procurement of over $150 million worth of WASH-related products including over a billion chlorination/flocculation sachets and purification tablets (UNICEF, 2020b), inclusion of chlorine tablets in a water quality kit in Sudan (UNICEF, 2021), and a bulk water chlorination project in Zanzibar in partnership with

[49] A quick Google search using keywords: "World Bank," "Subnational government," "lending," and variations of these terms did not reveal any clear policies on whether the Bank can lend to subnational units. In any case, it does not appear to be the bulk of the activity.
[50] In this context, UNICEF also "would like to investigate the potential for additional filter-based products that may offer even more cost-effective water purification," such as a very low-maintenance Gravity Driven Membrane filter, which they believe could fulfill UNICEF's criteria for suitability in emergency contexts (e.g., <$20/family with no maintenance for 5-8 years).

the Centers for Disease Control and Prevention (CDC)[51] and Zanzibar's Ministry of Health (CDC, 2022).

One expert's impression is that UNICEF funds many tank installations, and that it would be possible for them to do in-line chlorination on them.

World Health Organization (WHO)

Amount of annual funding: ~$1 million (low certainty)
Target geographies: Africa (primarily), possibly South Asia
Project type: Technical assistance (including water quality guidelines), water quality testing, WASH in healthcare facilities

WHO laid out three "strategic priorities" in its most recent General Programme of Work, 2019-2023 (extended to 2025), with 12 identified outcomes contributing to meeting its objectives that provide structure for its program budgeting. Each outcome is characterized by a series of outputs for measuring progress, and we identified Outcome 3.3 ("Healthy environments to promote health and sustainable societies") as the relevant program outcome to explore, given reference to "access to adequate drinking water"[52] and two potentially relevant progress indicators[53] (WHO, 2024a).

WHO does not break down progress tracking or budgeting by water access and quality. The best information we could find suggests that the WHO approved a total of $175.17 million in 2022-23 and $168.8 million for 2024-25 for Outcome 3.3 (WHO, 2024b; see "Base segment budget costing by outcome"). We use this number to provide an uncertain estimated range of the total WHO budget for water quality programs specifically, which we place in the hundreds of thousands to low millions of dollars annually,[54] with overall funding figures suggesting that the funding may be largely targeted to Africa.[55]

WHO produces a series of guidelines for drinking water quality and "supports countries to implement the drinking-water quality guidelines through the development of practical

[51] The CDC's role on this project appears to have primarily or even exclusively been to provide technical assistance.
[52] "Healthy environments are those in which all people have good air quality and access to adequate drinking water, safe sanitation and waste management, which in turn reduce the risks of exposure to pathogens and chemicals. They are also those in which all people can enjoy and have access to enabling and health-promoting settings and spaces."
[53] There are two relevant progress indicators out of eight total indicators for Outcome 3.3. One is the "mortality rate attributed to unsafe water" and other WASH services. This indicator lacks a stated target and only shows data for 2019 on its dedicated outcome indicator data visualization page, so we are unclear on whether it remains a target (WHO, 2023a). The second relevant indicator is the "population using safely managed drinking water services (%)," where safely managed drinking water is defined as an "improved water source that is accessible on premises, available when needed and free from faecal and priority chemical contamination" (WHO, 2019). The 2025 target for this indicator is 88.13%, up from 72.9% in the baseline year of 2018.
[54] Our estimated range is based on a BOTEC that we have included in the Appendix.
We also noted that there are only four mentions of the word "water" in this long 2024-25 budget document, none referring to water treatment (nor chlorination) specifically (WHO, 2023b).
[55] From the WHO 2022-23 audit report (WHO, 2024c), we can see the top sources and regional office recipients of funding for WHO program budgets overall (though not by outcome), which contributed 65-70% of its total program budget. Of all WHO major offices, Africa receives the most funding ($1 billion), almost the same amount as the WHO headquarters/global office, and Southeast Asia receives $256 million. Of the top 10 funders, five are countries (USA, Germany, UK, China, and Canada) representing 34% of the total program budget, four are non-governmental or intergovernmental organizations (Gavi, World Bank, European Commission, and UN CERF) representing 23%, and finally the Gates Foundation contributes 11%.

guidance materials and provision of direct country support," including developing regulations relevant to the local context, strengthening monitoring practices, and creating and optimally implementing water safety plans (WHO, 2023c). Through the WHO International Scheme to Evaluate Household Water Treatment (WHO, 2023c), they evaluate household water treatment products to ensure they comply with health-based criteria, and developed an adaptation of water safety plans for small primary healthcare facilities in LMICs (see WHO, 2022a; WHO, 2023c).

Government development assistance and lending

Several high-income country governments have provided overseas development assistance and loans toward water programs. Gunstensen suggested that this funding—which has come from Australia, France, the Netherlands, Sweden, Switzerland, the United Kingdom, and the United States—was historically greater, though recent "swings to the political right" have resulted in reduced aid budgets and budgets for WASH in particular. He said that USAID is likely the core funder now, and has "a clear strategy and decent budget allocations" identified here. He identified FCDO as a core funder historically, with signs that its recently diminishing funding could change trajectory. In addition, Lantagne identified the Chinese government as a big funder of water infrastructure in Africa. We therefore provide more depth on these three funding sources.

United States Agency for International Development (USAID)

Amount of annual funding: ~$1 billion to WASH programs globally (high certainty)
Target geographies (for water strategy): Africa (including Madagascar, Mali, and Nigeria), South and Southeast Asia, Central America
Project type: Capacity building, technical assistance

According to USAID, it is one of the world's foremost WASH donors with investments averaging $1 billion annually (USAID, 2023b). To better understand its role, we spoke to various experts within USAID's water program, including Ryan Mahoney (LinkedIn, 2011), and also spoke with two senior officers at USAID's Development Innovation Ventures (DIV) after the formal conclusion of this project.

Mahoney suggested that the agency's total annual expenditures on WASH[56] are around $400 million, but another USAID WASH advisor noted that "expenditure can mean many different things." For example, while the President's Budget requested $371 million in 2025 funding for water-related USAID operations (Congressional Budget Justification, 2025, pp. 87-88), that is different from congressional appropriations. When looking at real annual *allocations,* development assistance (DA) and the Bureau for Humanitarian Assistance (BHA) each surpass $450 million, but actual expenditure differs. Sources such as DollarstoResults, for which 2022 is the most recent year, report much lower total annual spending, at around $344 million.

Mahoney claimed that it is difficult to disentangle water (or chlorination) funding from broader program funding estimates, as they "do not view chlorination as an intervention but as one aspect of service quality that is sometimes neglected." Baker and Govender at DIL mentioned

[56] We initially thought it possible that Mahoney was referring only to water, but he clarified that the 'Water for the World Act' (Congress.Gov, 2014) requires USAID to define water operations as including all WASH interventions, although another USAID expert noted that there are some exceptions. Furthermore, Mahoney noted that "disentangling drinking water from [sanitation or hygiene] is very challenging. Further disentangling water chlorination from drinking water programs would be even more difficult."

USAID as a major and influential funder of water programs, and emphasized that sustainability is a key criterion for the agency's funding decisions. Rather than relying on continued external support, USAID prioritizes programs that are designed to be self-sustaining over time.[57]

USAID's 2022-2027 Global Water Strategy (USAID, 2022) contains four primary objectives pertaining to increased and equitable access to WASH services, climate-resilient freshwater resource and ecosystem management, reducing water-related conflict, and bolstering sector markets, financing, governance, and institutional infrastructure. The report contains no explicit mention of chlorination, and access to water and sanitation services appears to be the primary objective,[58] with interventions seemingly focused on capacity building and technical assistance for governments and other players in the water sector.[59] However, the REAL Water program, which we describe in more detail below, includes programs that involve technical assistance to improve chlorination (e.g., see USAID, 2023c, pp. 1 and 8-9, which involves advising on the frequency of chlorination and recommended chlorine residual levels).

Gunstensen mentioned that USAID is one of the only bilateral funders that have an active WASH project, and that they channel their money through consulting groups like Chemonics and Tetra Tech, the latter of which is their primary implementation partner for URBAN WASH.[60] When asked to describe a "representative" USAID water program in sub-Saharan Africa or South Asia, the USAID interviewees agreed that the question was difficult due to the diversity of projects. That said, there were a few commonalities across most relevant programs, which is that they: (1) are systems-level, (2) generally involve attention to governance, (3) work with relevant stakeholders (sometimes government), (4) are adapted for the local context and build on existing strengths, (5) center on sustainability, and (6) focus on SDGs as a standard throughout. The majority of USAID funding goes to their country offices. For more detailed information on the approaches they recommend and in which they invest, USAID suggested reviewing their technical brief series (GlobalWaters, 2020).

There is significant overlap between GiveWell's priority countries and USAID's high-need countries for WASH (all but Mali, which is "medium-high need"), which they identify using a WASH Needs Index Score (GlobalWaters, 2022a). However, there is less overlap with GiveWell's priority countries identified in its global water strategy, with only three in common: Madagascar, Mali, and Nigeria.[61] Mahoney and another USAID expert suggested that the discrepancy in overlap between their WASH Needs Index and their priority countries in the global water strategy stems partially from the Congressionally-mandated report of needs and opportunities, and partially due to targeting "durable impact" instead of pure need. In their reporting, USAID pairs their needs index to their internal "opportunities index," often known

[57] Mahoney confirmed this stance, saying "we are pretty concerned about sustainability in our programs, and we have broached paying for the chlorine, and leadership asks what happens when our project ends, and how do we hand this over? … So we focus on more system-level support to operators, utilities, or community-level associations."

[58] For instance, USAID launched a WASH Atlas in 2024 with 5km x 5km WASH access details (USAID, 2024). At the time of writing, such maps were available in nine countries, including Madagascar, Mali, and Nigeria.

[59] The sole mention of water quality within USAID's intermediate results suggests that USAID's approach to water quality in the near-term targets watershed management (USAID, 2022, p. 4).

[60] As we discuss in the implementers section, USAID also contracts to nonprofits such as RTI.

[61] A brief look at its country plan for Mali (USAID, 2023e) suggests a focus on strengthening institutions and increasing urban and rural access to WASH services, with an unclear budget section suggesting that $6 million was allocated for fiscal year 2022. Country plans are also available for Madagascar (USAID, 2020) and Nigeria (USAID, 2023f), but we did not review them.

as an "opportunity scorecard," which may incorporate information such as whether USAID has in-country missions or other presence in a country. A USAID expert noted that there is water programming in countries that are not "high priority," since water falls under the remit of other offices, e.g., humanitarian assistance, health, or environment.[62]

Gunstensen mentioned that there are three major USAID programs of relevance, including Rural Evidence and Learning for Water ("REAL Water"; GlobalWaters, 2024a) and Urban Resilience by Building Partnerships and Applying New Evidence in WASH ("URBAN WASH"; GlobalWaters, 2024b). REAL Water (2021-2026) seems quite relevant to GiveWell's agenda, though we deprioritized extensive research into URBAN WASH given its lower relevance.[63] Mahoney said that an estimated $18.8 million had been allocated to REAL Water over five years for "learning activities." The objective of REAL Water is to conduct implementation research[64] to inform strategy and best practices among policymakers, development partners, and public and private service providers for developing a safe rural water supply. For example, Mahoney mentioned Water Quality Assurance Funds in multiple countries in Africa (including RCTs, see Ghana's Baseline report; GlobalWaters, 2024a), Water Safety Plans in Ghana (GlobalWaters, 2023c), and circuit rider maintenance models in Guatemala and El Salavador (in partnership with COVA Water, which does chlorination).[65] The primary implementing partner is Aquaya, and there are several additional implementing partners.[66] Geographically, there is strong overlap with GiveWell's target countries, with REAL Water focusing on Benin, Guinea, Madagascar, Togo, and India, among others,[67] and additional (unspecified) countries are under evaluation.

The program publishes a number of resources (GlobalWaters, 2024a), including program and technical reports, videos, guidance documents, literature reviews, and blogs (so far, 29 such resources in total). The content focuses on evaluating water quality improvement mechanisms such as the Water Quality Assurance Fund (GlobalWaters, 2024d)—a financial mechanism that derisks rural water quality testing by urban labs, which has been tested in Kenya (GlobalWaters, 2024e) and Ghana (GlobalWaters, 2023f)—and Water Safety Plans, which have been tested in Ghana (GlobalWaters, 2023c). They also provide manuals (e.g., for the quality assurance fund) and country-specific institutional frameworks for water supply (e.g., for Kenya, GlobalWaters, 2022b; Tanzania, GlobalWaters, 2022c; and Uganda, GlobalWaters, 2023g).

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[62] A USAID expert confirmed that the agency carries out WASH-related programs in more than 40 countries in total. USAID's "global water strategy high-priority countries" in Africa and South Asia include Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, South Sudan, Tanzania, Uganda, Zambia, India, and Nepal (GlobalWaters, 2017). The three remaining countries are Guatemala, Haiti, and the Philippines.

[63] URBAN WASH (2021-2026) is also an evidence generation and dissemination initiative, and is focused on promoting "impactful, sustainable, equitable, and climate-resilient WASH policy and programming in urban and peri-urban areas." It operates on a global scale with Indonesia as its only listed country of focus. Tetra Tech is its primary implementation partner. We do not provide further information here given the broader focus on WASH and lack of overlap with GiveWell's priority countries. URBAN WASH will receive $22.5 million over five years (GlobalWaters, 2024b).

[64] Research questions include water provider performance, water safety, and water resources, and are listed in slightly more detail in the Appendix.

[65] He also said REAL Water (GlobalWaters, 2024a) is in conversation with Amy Pickering on in-line chlorinator research.

[66] Other implementing partners include Aguaconsult, Institute for Sustainable Futures (ISF), Kwame Nkrumah University of Science and Technology (KNUST), Safe Water Network, Skat Foundation, Water, Environment, Land and Livelihood (WELL) Labs, and Water Mission.

[67] Additional target countries include Ghana, Kenya, Tanzania, Uganda, Indonesia, Peru, Zambia, and Côte d'Ivoire.

USAID's Development Innovation Ventures (DIV) takes a different approach, funding innovative evidence-backed development ventures at different stages of the innovation chain, including evidence generation, piloting, and scaling (USAID Development Innovation Ventures). They are driven by social return on investment and have funded 297 innovation grants in 52 countries since 2010, some of which are WASH-related. For instance, DIV has supported chlorination historically, having provided a grant to Evidence Action in 2012 with an award ceiling of ~$7.4 million to scale chlorine dispensers in Kenya, Malawi, and Uganda (USAID, 2012).[68] It has also funded at least one randomized controlled trial in the WASH space—conducted by Innovations for Poverty Action in Kenya from 2013-2016—that focused on the effects of handwashing[69] on disease and mortality in children under five years old (USAID, 2021; p. 28). Additionally, it funded Johns Hopkins University to conduct a seven-day mobile health program in Bangladesh from 2015-2023 to reduce diarrhea and stunting among household members of hospitalized patients with diarrhea resulting from poor handwashing (USAID, 2021; p. 29).

UK Foreign, Commonwealth and Development Office (FCDO)

Amount of annual funding: $75 to 115 million (moderate to high certainty)
Target geographies: Sub-Saharan Africa and Asia
Project type: Investing in system-wide WASH infrastructure, institutional strengthening, and technical assistance

Over the past 15 years, the UK[70] has been a major contributor to the international WASH sector, with ambitious investments in WASH programs across sub-Saharan Africa, including the Democratic Republic of the Congo, Ethiopia, Malawi, Mozambique, Nigeria, Tanzania, Zambia, and Zimbabwe (ICIA, 2022a). Historically, the UK's investments have been sizable. In 2018, FCDO invested roughly $260 million in WASH-related interventions across the developing world (FCDO, 2023).

Since 2019, however, FCDO's focus has shifted to other issue areas. In a clear departure from historical funding patterns, the 2021 UK Development Strategy does not outline water as an area of focus (FCDO, 2023a). In turn, its funding for WASH programs has dropped substantially. By 2021, the Independent Commission for Aid Impact estimates that FCDO was investing $90 million a year, a drop of roughly 65% (ICAI, 2022b). Gunstensen suggested that FCDO funding moving forward would depend on the new government and the performance of the economy, and suggested that the expectation was that the foreign aid budget would grow again. He noted, however, that since coming to power, the Labour government has seemingly moved in the opposite direction, further restricting the FCDO budget (Merrick, 2024).

FCDO does not seem to issue funding reports by sector, so obtaining current expenditure figures requires conducting our own calculations.[71] To get a sense of the scale of funding, we accessed the FCDO program tracker (Development Tracker) and filtered for water-related

[68] We also found a project titled "Differences in Field Effectiveness and Adoption between a Novel Automated Chlorination System and Household Manual Chlorination of Drinking Water in Dhaka, Bangladesh: A Randomized Controlled Trial."
[69] The innovation the RCT tested was the installation in schools and clinics of Povu Poa, a "hand-washing system that includes a foaming soap dispenser and water-efficient tap" that pays itself off after a year of use due to savings on soap and water (USAID, 2021; p. 28).
[70] This funding was channeled through the Department for International Development (DFID), which was merged with the UK Foreign Office in 2020 to create the Foreign, Commonwealth and Development Office (FCDO; See Gov.UK).
[71] Moreover, funding allotted in a given year typically refers to multi-year commitments.

projects launched in 2022 and 2023. We estimate that for those years, FCDO invested $115 million (2022) and $75 million (2023) in WASH programming.[72] Our best guess is that funding for these initiatives would be within or below this range for the next few years, with little chance of funding increasing substantially given government budget cuts. We could not find data that would allow us to estimate investments made specifically in drinking water or chlorination.

Alongside funding shifts, the nature of FCDO's water-related investments has also changed. Prior to 2019, the UK focused investments in rural and community programs in developing countries, but questions were raised around the effectiveness and sustainability of such efforts. For example, an ICAI report cites an unpublished 2021 audit[73] of UK-funded water programming stating that "just over half of the water points constructed before 2018 with UK funding still provided reliable access to water, and a further one-third demonstrated limited functionality" (ICAI, 2022a). The UK's new approach has centered on supporting national WASH infrastructure with a focus on institution-building, raising service standards, and improving financing for these systems.

Funding reflects these new priorities. For example, in 2023, the FCDO launched the Water, Sanitation and Hygiene Systems for Health (FCDO, 2024) initiative with an aim to "support governments in up to five[74] developing countries in sub-Saharan Africa and South Asia to strengthen the systems needed to establish reliable, resilient, and inclusive WASH services over five years" (FCDO, 2023b). It is difficult to ascertain the status of said project from the FCDO project tracker website (FCDO, 2024), but according to some of the publicly available spreadsheets (FCDO, 2024) that aim to benchmark current water infrastructure, the focus appears to be on six countries: Bangladesh, Malawi, Nepal, Nigeria, Sierra Leone, and Tanzania; Nigeria being the only country identified by GiveWell as a priority country. One of the larger grantees under this funding stream is IRC, which will lead the project alongside the London School of Hygiene and Tropical Medicine (LSHTM) and the University of Leeds to create a WASH Systems For Health Facility. The Facility will conduct research to select eligible countries and eventually provide tailored advice and support for WASH system strengthening (IRC, 2023).

GiveWell suggested we examine an FCDO-funded, UNICEF-implemented "Sanitation, Water and Hygiene for the Rural Poor" program (FCDO, 2022) that was implemented from 2017 to 2022.[75] The program allotted $75 million to fund the Accelerating Sanitation and Water Supply (ASWA) project implemented by UNICEF in ten low- or middle-income countries: Bangladesh, Cambodia, Eritrea, Haiti, Madagascar, Myanmar, Nepal, Niger, Pakistan, and South Sudan. According to a business case document (WASH, 2022) we reviewed, the program was to be "managed by DFID's WASH policy team in the UK, and implemented by a combination of

[72] In 2023, there were six new projects funded with an average investment of $13 million. In 2022, there were two new projects, a single one entailing almost the entire budget at $112 million. In two cases across these years, water investments were only a part of the total investment; in these cases, to ensure comparability, we looked through their respective program budgets to identify the percentage of funding for WASH programming exclusively.
[73] The ICAI report cites this as: Assessment of the sustainability and targeting of UK-supported WASH programming, IMC Worldwide, September 2021, unpublished, no link available.
[74] In some documents, the number of targeted countries shifts to six. It is unclear to us if this means that one of the six countries we share about later was dropped, or whether this was an early change with no effect on programs.
[75] A noteworthy point is that initial target outcomes were scaled-back due to 1) repurposing funds to support COVID-19 pandemic response plans and 2) a reduction in overall UK development assistance (which reduced funding by ~22%).

NGOs, the private sector, and UNICEF" (p. i). However, in subsequent documents, FCDO drops mentions of the NGO/private sector consortia, and funding seems to have gone exclusively to UNICEF. Likewise, while the program objectives seem to have focused initially on access to safe water and sanitation, the focus seems to have shifted substantially towards waste disposal (i.e., adequate toilets). For example, in annual review reports for years 2018, 2019, and 2020, the term "drinking water" appears only once, compared to 10 times in the initial business case document (WASH, 2018; WASH, 2019; WASH, 2020; WASH, 2022).

Details on program specifics are hard to find. A baseline report (UNICEF, 2019a) for one country (Cambodia) suggests that future programming should "reinforce and where possible introduce new methods and tools for water treatment, which are locally relevant and more acceptable" (UNICEF, 2019a, p. 55). The specific methods or tools are not mentioned.[76] A UNICEF document on WASH strategies in Cambodia is similarly opaque, but mentions that UNICEF works with "private sector, and social enterprises" to provide clean water supply "adapted for local contexts, including piped water systems and bottled water enterprises" (UNICEF, 2019b, p. 4). We could not find sufficient additional information to understand what types of approaches were actually being implemented, how they were being selected, and who was implementing them. We believe that talking with UNICEF staff directly might shed light on these questions.

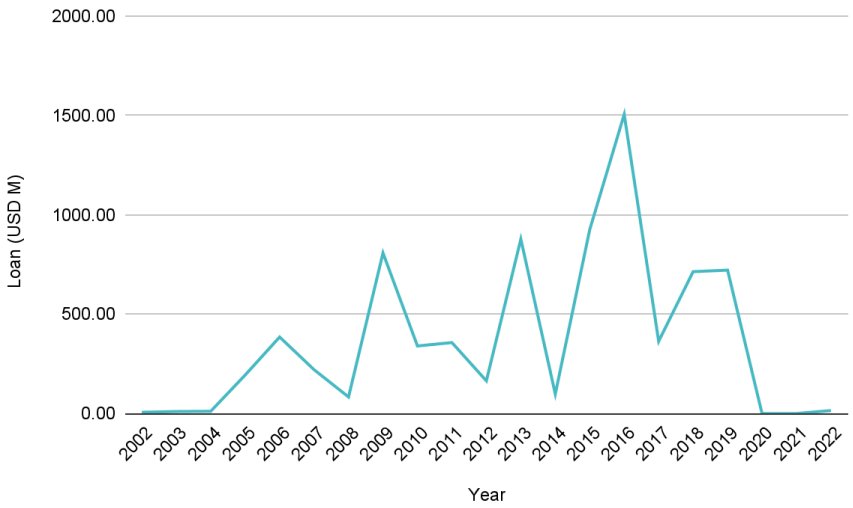
China Development Bank and other Chinese government lenders

Amount of annual funding: $0 - $800 million (moderate certainty)
Target geographies: Focus on Africa, Angola, Benin, Cameroon, Côte d'Ivoire, Democratic Republic of Congo, Djibouti, Ethiopia, Equatorial Guinea, Ghana, Kenya, Mauritius, Morocco, Niger, Nigeria, Republic of Congo, Senegal, Seychelles, Sudan, Tanzania, Zambia, and Zimbabwe
Project type: Large-scale water infrastructure

When asked about major sources of funding in the regions of interest to GiveWell, Lantagne suggested that the largest funders of large-scale (i.e., not community-based) water infrastructure are the World Bank and China, both of which take a development financing (rather than development assistance) approach. Our research suggests that China has committed $7.1 billion across 93 loans in sub-Saharan Africa—primarily in Angola, which has received 47 loans and $1.9 billion—with annual WASH funding on the continent ranging from ~$10 million to ~$1.5 billion since 2000 (Boston University, 2021, accessed 8/22/24).

[76] We spent roughly 45 minutes reading through FCDO and UNICEF documentation to arrive at these conclusions, as well as conducting web searches with keywords including ASWA and chlorination, drinking water, and variations of these terms.

Figure 2: Chinese Loans to African Countries for Water, Sanitation, and Waste Projects 2000-2020



Note. Source: Boston University Global Development Policy Center. 2024. Chinese Loans to Africa Database. Retrieved from the Loans to Africa database (Boston University, 2021). Our calculations here.

To get a sense of the scale of funding and any recent trends, we downloaded the entire *Chinese Loans to Africa Database* and filtered for projects in "Water, Sanitation, and Waste."[77] Figure 2 shows Chinese investments since 2000. Two takeaways are noteworthy. First, Chinese investments in these sectors were increasing until 2016, when they reached roughly $1.5 billion. The funding spike in 2016 was linked to large investments in Angola, accounting for almost $1 billion of the total. Second, since 2016, there has been a precipitous drop in investments. There were no loans in the water sector for 2020 or 2021, and the single investment in 2022 is small. This would suggest that over the next few years, funding could remain low—even perhaps zero. However, the wide swings in year-to-year funding suggest that the Chinese government can easily and quickly adjust course when it comes to investing in water in Africa. Our sense, therefore, is that while funding is likely to remain low, it would not be surprising if funding ramped up significantly to return to $800 million a year (similar to investments in 2013, 2018, and 2019) over the next few years.

When discussing loans from the Chinese government, Lantagne suggested that they (along with the World Bank) are focused on developing large water systems. This is in line with our research. One source discusses a "rural well-drilling project" in Senegal (Finance Development Lab, 2024), and many of the loan descriptions in the database refer to construction of infrastructure for water supply and distribution. A short description of all loans and their sources[78] and amounts is available in the interactive database. At least one loan has been granted in each of the following GiveWell priority countries:

- Benin: 1 loan totaling $90 million in 2017 for drinking water supply
- Cameroon: 5 loans totaling $1.1 billion from 2007-2018 for potable water supply and treatment
- Niger: 1 loan totaling $49 million in 2012 for a potable water project
- Nigeria: 1 loan totaling $380 million in 2018 for a water system

[77] The database used publicly available information, so it remains possible that there is significant Chinese activity that is not being captured in our data.
[78] Lenders are primarily the China Development Bank (CDB) in Angola, and the Export-Import Bank of the Republic of China (CHEXIM) in all countries.

- Sudan: 14 loans totaling $809 million from 2003-2010 for drilling wells and other water supply and treatment projects

Foundations

According to Gunstensen, there is only a small amount of funding for water quality coming from foundations, with "none of the big US or global foundations backing water and sanitation". He suggested that the reason for the relatively small amount of funding from this sector is due to the difficulty of demonstrating causal health impacts, with the exception of the recent meta-analysis from Michael Kremer and coauthors (Kremer et al., 2023). He mentioned that foundations view working with governments to improve water quality as something that is complicated and hard to do, considering that water is really a public service, with 95% of global water services run publicly. He mentioned from his experience leading the Stone Family Foundation that WASH is difficult to invest in, given slow (12-15 years) and low (4-5%) returns relative to investor expectations (i.e., 5x returns within 5 years).

However, some foundations are allocating funding to the tune of (low) tens of millions of dollars each year. Gunstensen, who helped set up the WASH Funders Group that (in his estimates) disburses $100-200 million per year, said that of the 23 funders in the group, Grand Challenges Canada, the Conrad N. Hilton Foundation, and the Stone Family Foundation disburse the most funds—~$10-15 million per year—while others disburse $1-3 million annually (though we differ with him on the GCC figure, see below.)[79] We therefore provide overviews of these three foundations below, along with Aqua for All, a foundation identified as an important player in both our funding and implementation shortlisting exercise. Interested readers may refer to our (incomplete) sheet that provides information on additional funders we identified and reviewed during this research project.

Aqua for All

Amount of annual funding: ~$38 million (moderate certainty)[80]
Target geographies: Africa (including Burkina Faso and Mali) and South Asia
Project types: Enabling environment, innovation, and incubation

Aqua for All is an innovation-focused foundation that plays various roles "ranging from coaching to financing" in the water landscape that serve their main objective, which is to "enable innovative ideas and solutions to scale up and become viable businesses" (Aqua for All, 2014). The Ministry of Foreign Affairs (MFA) of the Netherlands provides the majority of their funding, and Aqua for All targets their efforts in Burkina Faso, Ethiopia, Kenya, Mali, Mozambique, and Senegal in sub-Saharan Africa, and India and Bangladesh in South Asia (Aqua for All, 2020a). They have an incubation program—VIA Water Programme (Aqua for All, 2015)—for water and sanitation innovations that align with their goals. They work with a range of actors across the innovation ecosystem, including "governments, civil society, private businesses and financiers, customers, and others" (Aqua for All, 2020b).

[79] Gunstensen also mentioned that there are foundations with a different focus than water—e.g., climate, conservation, public health, social enterprise—that provide one-off grants in the water space. For instance, the Hewlett Foundation supports the Water Foundation, whose focus is on water conservation. He mentioned the Howard G. Buffett Foundation and the Rockefeller Foundation in this category. The Bezos Earth Fund (BEF)—which is focused on climate solutions—appears to fall into this category, as it has partnered with Water.org on water infrastructure to reduce water and energy waste (BEF, 2023).
[80] We estimate Aqua for All's funding to be $113 million over the 2019-2022 period (3 years), so we take $113 and divide by 3 to arrive at $38 million, which would be what we could expect to be its funding in 2023 and years thereafter.

Aqua for All's total funds contracted (including grants and leverage) from 2019-2022 was €104 million (~$113M), with the highest country-level of funding allocated to Kenya (~€25.5 million), and the next most funds in a sub-Saharan African country contracted in Ghana (€3.4 million; Aqua for All, 2022, p. 10). We filtered their initiatives on the categories of most relevance to GiveWell (drinking water, household water treatment and safe storage, and safe water at point of use), which resulted in three initiatives focused on: household purchasing of water filters (Aqua for All, 2016) from the utility in Ethiopia (€140,000, 2016-2020), increasing knowledge of groundwater resources (Aqua for All, 2017) in Benin (€422,000, 2017-2019), and a carbon credits project (Aqua for All, 2013) in Ethiopia and India (funding amount not specified). In addition, their website demonstrates some interest in chlorination, including a mention of in-well chlorination (Aqua for All, 2021), indicating there may be potential for partnership in this area.

Grand Challenges Canada

Amount of annual funding: $100,000 (low to moderate certainty)[81]
Target geographies: Low- and middle-income countries
Project types: Grants to organizations developing new models and interventions to improve health outcomes

Grand Challenges Canada is a Canadian nonprofit organization funded by the government of Canada and other prominent foundations and donors dedicated to finding solutions to health development issues in low- and middle-income countries. GCC deploys the Grand Challenges approach (Singer et al., 2011), which focuses on tackling complex large-scale problems by 1) identifying the most significant obstacles to progress on a given issue, 2) generating targeted programs and funding to create innovative solutions to these problems, and 3) scaling up the most successful solutions.

GCC has a Stars in Global Health program that focuses on funding for innovations that improve health outcomes in low-income countries at the proof-of-concept stage (GCC, 2013). Water quality initiatives fall under this program. We filtered through their program history (GCC, 2016) and identified up to 38 water quality projects they have funded in their history, though we have some uncertainty over this number.[82] Stars in Global Health has funded 816 total interventions since 2010, suggesting that water interventions constitute 5% of their portfolio. Since we estimate this budget to be roughly $2.07 million, then annual spending should be fairly low—in the ballpark of $100,000. It is plausible, however, that in any given year, spending on water interventions is more or less than that, but not by orders of magnitude.

[81] Gunstensen guessed funding to be between CAD $10 to $15 million in WASH. We reviewed their 2023 financial statements (GCC, 2024) which state that the amount of money going to all programs via grants is ~$31 million, see page 5 under program expenses. This would imply that GCC spends half its budget on water, which is not feasible given further research. A 2023 annual report suggest that their health program (Stars In Global Health), which fund water-related initiatives, receives only 9% of all programming expenditures, suggesting spending of ~CAD $2.79 million or $2.07 million (31 * 0.09); (see GCC, 2023, p. 27). Further we would not expect that all of this funding goes to water. As we describe in text further, we estimate that the historic amount of awards going to water interventions is close to 5% (38 water quality projects out of a total of 816 projects), leading to our best guess of spending being close to $103,500 a year. Gunstensen believes our numbers are probably more accurate.

[82] We filtered for projects under the Stars in Global Health program, and then selected water quality as the priority area. The results are a mixed bag with some projects evidently not related to water quality (e.g., "A virtual reality intervention to improve mental health literacy among refugee youth in Uganda"). We quickly glanced through the first eight intervention titles and only half of them seem to relate to WASH initiatives. Extrapolating, that would mean that the number of initiatives related to water quality is closer to 19 (0.5*38 hits.)

The majority of these programs appear to target investments in social enterprises to deliver WASH services, though it is difficult to uncover specifics from the GCC website. For example, GCC invested in a Japan-based social enterprise (GCC, 2018) to bring sustainable and affordable toilets to scale in Uganda. Similarly, they have invested in a French-based social organization (GCC, 2020) that provides access to safe drinking water to households in Dhaka through a social enterprise model in which users are incentivized to take care of the infrastructure. Neither project page provides any further information. Still, it is likely that GCC would be interested in funding social enterprises with innovative approaches to sell or administer water treatment programs, including chlorination, at the system or household level.

GCC also provides CAD $10K each year to an innovation with "the largest sustainable increase in lives saved or lives improved in the last year." In 2022, it awarded the prize funds to the Max Foundation (GCC, 2023) for its "Healthy Villages" model that creates partnerships (communities, NGOs, entrepreneurs, local governments) to improve WASH via NGO training and resource provision, community-driven education initiatives (demand creation), and resource mobilization for local governments to adopt and fund the model, where NGOs are compensated based on results.

Stone Family Foundation (SFF)

Amount of annual funding: $10-15 million (moderate to high certainty)
Target geographies: Ghana, Kenya, Uganda, Rwanda, Ethiopia, Cambodia, and Bangladesh
Project types: Grants, loans, and impact investments in enterprises that focus on market-based approaches to the provision of water services

The Stone Family Foundation is a UK-based family foundation that focuses 80% of its funding on providing water to homes in Africa and Asia (SFF, 2022a). They fund projects mostly in Ghana, Kenya, Uganda, Rwanda, Ethiopia, Cambodia, and Bangladesh. SFF favors market-based approaches to support decentralized piped water with connections to the home.[83] To do so, it provides grants, loans, and impact investments to enterprises that deliver these products. For example, SFF provided a $500,000 grant to Water4Ever, a locally owned and operated safe water enterprise serving 42,000 people in Sierra Leone. Water4Ever is the operator of small piped networks that obtain water from boreholes or other sources, treat the water, and then sell at public or private distribution points (Water4Ever, 2024).

We filtered through their water portfolio and identified 10 active grants, loans, and investments worth $12.95 million. The majority of funding (~51%) goes to grants, followed by blended financing instruments (~26%). The biggest cumulative recipient is 1001fontaines, with a capital investment of $3.4 million to support its operations in Cambodia (SFF, 2017). Their largest single grant of $4.5 million is to Safe Water Network (SFF, 2022b) in Ghana to expand a piped water network. We found no specific references to chlorination in the Stone Family Foundation's website and no recent investments with that focus in a general web search.[84]

[83] SFF rejects charity models that provide services for free (SFF, 2022c).
[84] We conducted a search of Stone Family Foundation's website and a general web search using the key terms: chlorine, chlorination, Aquatabs.

Conrad N. Hilton Foundation

Amount of annual funding: ~$13 million (moderate to high certainty)[85]
Target geographies: Ethiopia, Ghana, and Uganda
Project types: Grants aimed at systems-level WASH interventions, with emphasis on building local institutional capacity to deliver WASH services

The Conrad N. Hilton Foundation is a private family foundation operating worldwide. It funds seven program areas including safe water access (Conrad N. Hilton Foundation, 2014). The foundation prioritizes systemic interventions, highlighting in a strategy document that: "Infrastructure support alone, like drilling boreholes or laying out pipes, is insufficient" (Conrad N. Hilton Foundation, 2024a, p. 1). In this regard, the Hilton Foundation appears to favor doing some level of investment in infrastructure but ensuring that other entities (whether public or private) can take over operation afterwards. Similarly, it envisions investing in innovative water projects that are then replicated by other actors.

In practice, this means investing significantly in upgrading systems-wide water infrastructure (e.g., pipes), building institutional capacity at the utility level, and testing new ways of delivering water services (e.g., incentivizing private actors to enter the market). In 2024, it invested in at least six organizations, the majority of which work directly in Africa (Conrad N. Hilton Foundation, 2024b). These grants support Project Maji ($2 million) to implement master WASH plans in Ghana, Water.Org Inc ($2 million) to build the capacity of local financial institutions to support small entrepreneurs and households in rural Uganda, Join for Water ($0.25 million) to identify priority water resources management activities in northeastern Uganda, Safe Water Network ($0.25 million) to strengthen Ghana's water utility staff capacity and upgrade existing water infrastructure, Water Missions International ($0.1 million) to test a rural safe water service delivery model in Uganda.

Gunstensen said that the Hilton Foundation is very active and geographically focused, and that the individual running their water program is worth meeting. He implied, however, that they have broadened the definition of water quality beyond just *E. coli* and bacteria and are now also interested in lead. Indeed, we searched through their active grants for mentions of Aquatabs, chlorine (and variations thereof), and water treatment, and found zero references to these terms in their project descriptions.

Progress and key debates in the water sector

In addition to researching the implementation and funding landscape, GiveWell also asked us to capture any findings about two topics as a lower priority: the evolution of water quality programs, and key concepts and debates in the field.

We spent a limited amount of time on these questions, primarily investigating them in interviews with experts. In these final sections, we present an anonymized synthesis of the views expressed.[86] We include this content because it may help to contextualize further research and findings.

[85] They report allocating $88M to their Safe Water initiative over 2021-2027: $88 million divided by 7 is roughly $12.6 million.

[86] As a result, all information below should therefore be considered our interpretation of our conversations with experts, rather than expert-vetted content."

Evolution of the water landscape

One expert interviewee (anonymously referred to as the "interviewee" in this section) provided a brief and useful history of the water landscape, which we recap here (though we did not research or fact check ourselves).[87]

The UN called 1980-1990 the "Water Decade," which the interviewee described as focusing on creating wells and installing latrines to provide "safer water and sanitation to prevent disease." They suggested that there were some successes in expanding infrastructure, but that infrastructure breaks and requires social systems to maintain it. The Water Decade did not meet its (unrealistic) goals of universal access to safe water and sanitation, so the result was disappointment and burnout.

The burnout was particularly severe following a number of USAID projects prior to the Water Decade to install large US-style water and sanitation infrastructure.[88] These efforts highlighted the question of how to maintain the infrastructure, think about local solutions, and encourage relevant behaviors. As a result, the 1990s saw a "huge push" for household treatment (e.g., ceramic filters, biosand filters, solar disinfection, and household chlorination), which is both empowering and a significant ask for households. On the chlorination side, the CDC was a major player conducting research to show that chlorine reduces diarrheal disease, and Potters for Peace was a major player in filtration.

At the start of the 2000s, the MDGs (2000-2015) came into force. According to a different expert, the MDG-aligned position around 2009 was that household water treatment "does not count, because the goal of WASH infrastructure is that the government should provide it and it should not depend on the user." This sentiment produced pushback against the household treatment approach and created more momentum toward government responsibility to meet the MDGs (and then the SDGs from 2015-2030), which shifted the sector's approach toward working with local governments to build and maintain the systems. The interviewee suggested that in some places, this approach has worked well (e.g., Kenya). However, there emerged a "bifurcation between the development sector … and the humanitarian sector," with the former focused on the SDGs and the latter often resorting to household treatment because it is the only option in humanitarian or emergency settings.

In 2008, Michael Kremer received funding from the Bill and Melinda Gates Foundation to research springs in Kenya, the contamination of which led him to focus on chlorination. According to the interviewee, his data suggested that chlorinating at the dispenser was cheaper than giving people individual bottles, leading him to work on dispensers. He later received a much larger pot of USAID funding (in part due to his involvement with DIV), and when both pots of funding ran dry, "GiveWell came on board," which led to dispenser programs in a number of places. The interviewee said that as a result of Kremer's work, there is much more money flowing to chlorination now (primarily to dispensers, and mostly via GiveWell) than to filtration.

Today, the interviewee said, the World Bank and the Chinese Government are the primary funders of large centralized WASH plants, while funders of humanitarian response (conflict response, environmental disasters, outbreaks) are the primary supporters of household

[87] Another expert also pointed us to a 2023 USAID report that includes a history of the water aid sector (USAID 2023, chapter 3).
[88] The interviewee suggested that USAID scaled back its funding significantly in the 1990s.

treatment[89] and charity: water (wells, small systems), DIV, and GiveWell are involved in the middle ground that includes chlorine dispensers. Household water treatment tends to be a small portion of WASH grants (for example, to provide safe drinking water to refugees).

Key concepts and debates in the water sector

Below, we outline two important topics that arose in our discussions with experts: sustainability in WASH, and the importance of the SHINE and WASH Benefits trials.

The notion of sustainability in WASH work

Implementers often describe their interventions as *sustainable* to assuage concerns that their interventions will last only as long as implementers and funders continue to deliver them. As one expert described: "If you go and install boreholes and then leave, 50% will not be operational within two years. How do you set up a system so that it is maintained? Are there fees? Who manages it?" Such issues of sustainability plagued water programs of the 1990s and early 2000s, so these questions are key to understanding the implementation approaches of many organizations today.

Sustainability concerns highlight two issues: operations and maintenance on the one hand, and cost on the other. To ensure sustainability of operations and maintenance, many of the implementers we researched partner with local organizations[90] to understand the local context and create or enlist local capacity to operate and maintain the water interventions they deploy. To address ongoing costs, one expert noted that some funders are more interested in programs that integrate user fees to recoup costs to ensure they are financially sustainable, as implementers are typically on the ground for no longer than three to five years. In other instances, organizations build infrastructure but pass their management and cost directly to local private and public actors, though this approach is likely to be constrained by local capacity to absorb these services.[91] Lastly, some organizations emphasize a market-building approach, in which they generate local demand for WASH products and services and help support businesses that would supply them.

One expert noted that institutions are another crucial component of sustainability. In their view, sustainability can only be sustained with strong institutions, so such institutions are a crucial part of USAID's global water strategy. They suggested there are a number of qualitative index tools available—e.g., TripleS compares 11 of them (BASF, 2025)—that generally evaluate finances, roles and responsibilities, and the legal environment.

The emphasis on sustainability generally implies approaches that look quite different from the one piloted by Evidence Action in recent GiveWell-funded work, in that they usually require ongoing payment and investment of effort from the water users or the local community to keep infrastructure operational. One expert highlighted that most WASH funders and implementers approach the issues as a "package" of water access, quality, sanitation, and

[89] They suggested chlorine tablets (e.g., AquaTabs) are common, and that CAWST supports small NGOs in LMICs on household water treatment.
[90] Such local partners may be WASH or development implementation experts such as the partners described in World Vision's annual report (World Vision, 2024), but many others are local community organizations, or even water management boards, set up by the foreign NGO but staffed by local community members.
[91] Though one expert notes that some organizations, such as Evidence Action, operate in areas where there is no existing water infrastructure, or capacity for a successful project handover to local or national authorities.

education, and a narrow focus on individually cost-effective initial interventions would place a funder in the minority.

SHINE and WASH Benefits Trials

A seemingly major debate in the space is around the amount of weight to place on the findings of the SHINE (Pickering et al., 2019) and WASH Benefits (Stewart et al., 2018) trials. The SHINE trial found that WASH interventions (including home-based water treatment) had no effect on diarrhea in Kenya or Zimbabwe. The WASH Benefits trials found that handwashing, and a water-sanitation-handwashing-nutrition bundled intervention, might have improved child motor development after one year by certain definitions, but not by two years.

The SHINE trial in particular has apparently significantly impacted WASH funding, leading to reductions. Two experts seemed to question the SHINE trial's null result (with one suggesting the actual result is likely between no effect and that found in the Kremer meta-analysis), and one suggested the study design led to the result. One expert said that there has been significant pushback against water treatment as a result. Separately, there has been pushback against chlorine (e.g., the risk associated with consuming trihalomethanes[92]), which has driven Europe (and, to a lesser extent, the US) to become "anti-chlorine," and reduce chlorination in its systems, which is safe given the better quality of its water and water infrastructure. For Europe, they said, this sentiment extends to their approach to development contexts, which are characterized by much poorer water systems.

However, one expert strongly suggested that the benefits outweigh the costs in humanitarian contexts. They said there is not a lot of funding directed toward thinking about when and where chlorine and water treatment are appropriate solutions today, for instance, in "places in the world where the government is not going to [make progress on water quality] for possibly decades."

Another issue is that the health sector seems to attribute too little of the global burden of disease to water quality. One expert suggested that GiveWell is well-positioned to nudge the health sector toward focusing more of its attention on the issue. They said that groups focused on health outcomes (e.g., maternal and child health) are a "prime audience" since they tend to outsource anything related to WASH or environmental health to the water sector, despite water's major contribution to the global burden of disease. They suggested that there is a stronger focus in the health sector on treatment—for instance, tracking indicators for children treated for diarrheal disease in order to prepare hospitals, though children will return to their polluted environments following treatment—rather than prevention.

What we would do with more time

- Highest priority:
  - Explore the Asian Development Bank (ADB) as an important funder
  - Further investigate China's development assistance; it is our impression that China hires its own firms to build infrastructure in developing countries, leading to some quality and design issues, but we did not read any documents on this in Africa
  - Add discussion of the various advantages and disadvantages of in-line

[92] Adding chlorine to unfiltered water from a well (i.e., barring soil filtration), chlorine can react with other contaminants to create compounds that are toxigenic over time. One expert said the relative risk is low, with 1 in 100,000 who drink chlorinated water at the maximum WHO-allowable level over 70 years will develop bladder cancer.

chlorination, vouchers, and other approaches

- Lower priority:
  - Explore in greater detail large aid agencies' contracting portfolios to better identify which projects led by large implementers are a result of an internal strategic direction, as opposed to contracted implementation
  - Look for additional potential funders and implementers in World Vision's Annual Report (World Vision, 2024)
  - Uduma's parent organization, Odial Solutions, puts out an annual report (Odial Solutions, 2023) with many useful case studies. Given more time, we would like to review this document further
  - USAID suggested reviewing their technical brief series (GlobalWaters, 2020); we did not have sufficient time to engage with the series
  - Review USAID paper that summarizes the history of the water sector since the 1980s: Professionalizing Rural Water (USAID, 2023d)
  - Read through the UN's GLAAS Survey in more detail to better understand WASH expenditure from participating countries (WHO, 2022b)

Appendix

BOTEC on WHO water allocation

Our estimated range for WHO's spending on water programs is based on the following BOTEC:

Out of eight indicators of progress with associated targets, only one or two are relevant, or ¼-⅛ of total indicators. However, these indicators and targets are not exclusive to water quality improvements, so we assume that some small percentage of the funding to reach these two indicators is for water quality. Since water is only ⅓ of WASH (water, sanitation, and hygiene), we start by assuming that a maximum of ⅓ of the funding to reach these targets goes toward water, though perhaps only half of that is allocated to water quality, giving us a range of ⅓-⅙ of funding for those targets.

Taken together, these fractions suggest a minimum funding level of 1/48 to a maximum of 1/12 of the budget for Outcome 3.3 devoted to water quality interventions, or approximately $3.65 million to $14.6 million globally. The 2024-25 budget for Outcome 3.3 suggests that approximately 11% and 7% are allocated to Africa and Southeast Asia, respectively, which leads us to our best guess that relevant funding is in the hundreds of thousands to low millions of dollars per year. We subsequently found this data, which suggests approximately $12 million and $8.6 million for Africa and Southeast Asia, respectively for output 3.3.1, which aims to address all environmental risks (e.g., air quality, climate change, WASH, and others), which seems consistent with our best guess.

Research topics by REAL Water

Research questions include:

- **Water provider performance**: (1) How do management arrangements, management practices and conditions, and other contextual factors influence the performance of rural water service providers? (2) What specific interventions employed at scale offer the most promise for improving the management and performance of rural water service providers?
- **Water safety**: (1) How effectively can existing professional water quality laboratories expand their water testing services to rural water supplies? (2) To what extent does water quality data trigger improvements in water treatment, consumer satisfaction, and sustainable water safety management practices? (3) Are water safety plans effective forms of risk mitigation for rural water supplies in low-resource settings?
- **Water resources**: (1) To what degree is source diversification occurring in rural areas to respond to decreasing water availability and threats to water quality? (2) How is holistic water resources planning, at scales relevant to rural water service authorities, being implemented in practice? (3) How does the introduction of on-premises piped water supply change household water use and demand, and what effects do these changes have on water services?

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