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A BRIEF INTRODUCTION TO WASH FOR IMPACT INVESTORS

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EUROPEAN MICROFINANCE PLATFORM
ADVANCING FINANCIAL INCLUSION

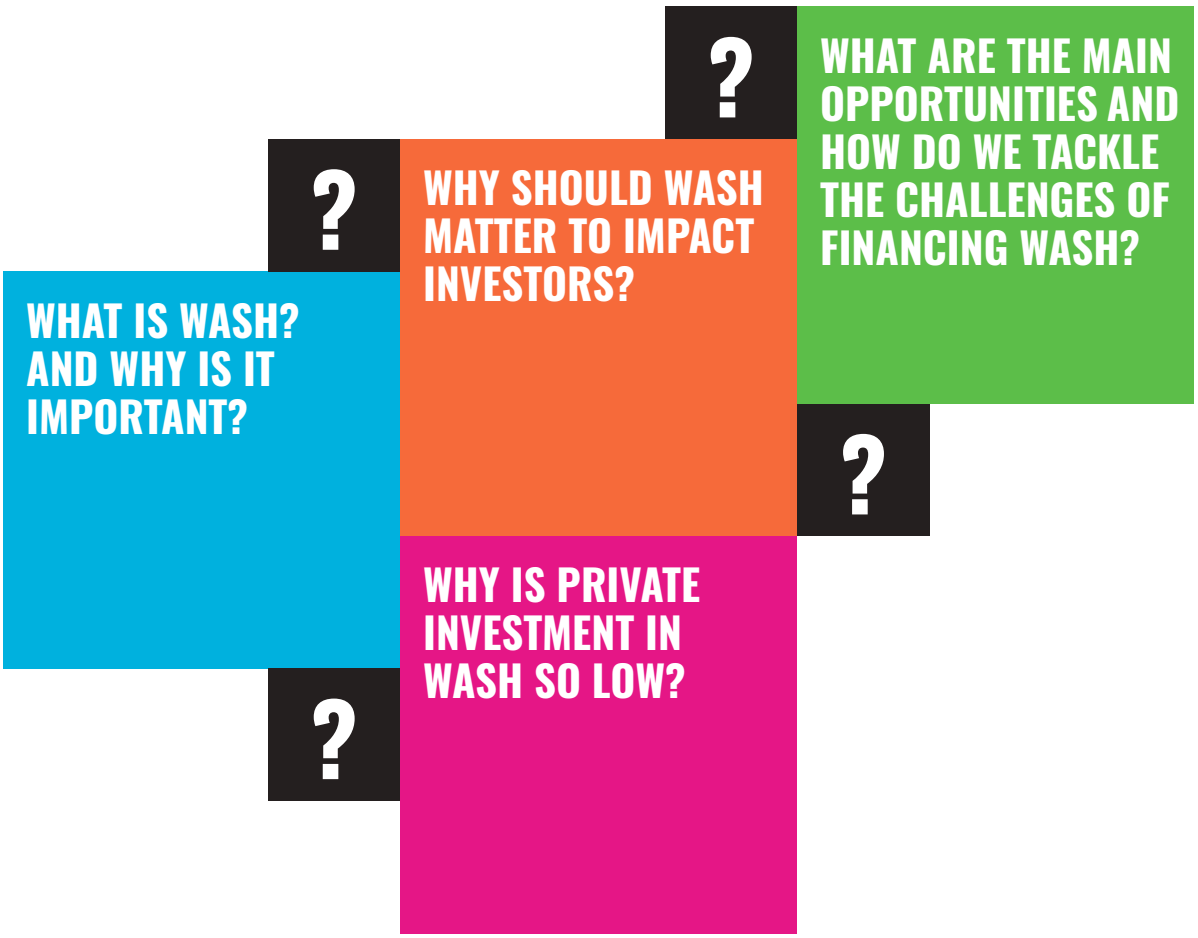
Aqua for All

INTRODUCTION

The e-MFP WASH Action Group was created in 2021 to answer to a need shared by some e-MFP members, particularly investors, to better understand the Water, Sanitation and Hygiene (WASH) sector and its relevance for low-income populations in developing countries, and to be able to identify investment opportunities in the sector. The activities of the Action Group (AG) are led and co-funded by Aqua for All, and its founder members include Incofin, Oikocredit, Triple Jump, MFR, BNP Paribas, and Natalia Realpe Carrillo.

This short publication is the first AG output and introduces the publication of the "Handbook on WASH for Impact Investors", a comprehensive document prepared by consultant Sachin Kumar based on thorough secondary research and interviews with key stakeholders. In this teaser, the research key findings are presented in the form of reply to the four central questions addressed in the study.

The handbook is published in 2 parts. Part I aims to improve awareness about the sector and its linkage with the Sustainable Development Goals (SDGs) by presenting the main concepts in WASH, outlining the value chains of safe drinking water and sanitation, and showcasing SMEs working in WASH and their business models. It contains valuable information not only for impact investors but for all financial inclusion stakeholders looking to improve their knowledge about the sector. Part II focuses on the WASH economy, drawing attention to the existing funding gap, identifying challenges and preconceived ideas about investing in WASH projects and advancing solutions to tackle the identified challenges, with the expectation of contributing to catalyse new investments in the sector in the short and medium term.



? WHAT IS WASH? AND WHY IS IT IMPORTANT?

WASH stands for 'water, sanitation and hygiene'. It is an umbrella term used to address (in)adequacies in these areas in the international development context.

Water is needed for all aspects of life. Humans and animals cannot survive without safe drinking water, and adequate water resources are essential for food production and thus for proper nutrition. **Sanitation** refers to disposal, vector control, drainage and treatment of human excreta and urine, while **Hygiene** is defined as practices conducive to healthy living and maintaining good health.

The **interlinked nature and impact** of these areas can be better understood by an example – lack of adequate sanitation contaminates water sources used for drinking-water, irrigation, bathing, and other household purposes, leading to consumption of unsafe water, and resulting in impaired health through illnesses such as diarrhoea. Half of the population in developing nations suffers from diseases associated with inadequate provision of water supply and proper sanitation facilities. More people in the world own cell phones than have access to a toilet; and as cities and slums grow at increasing rates, the situation worsens. Every day, lack of access to clean water and sanitation kills thousands, leaving others with reduced quality of life.

WASH is crucial for human health and well-being and thus has been declared a human right in 2010 and a facilitator of access to other rights and development goals[1].

Ensure availability and sustainable management of water and sanitation for all is one of the 17 Sustainable Development Goals (SDGs) defined in the 2030 Sustainable Development Agenda, which includes among the targets to be achieved by 2030:

- universal and equitable access to safe and affordable drinking water for all (Target 6.1).
- access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations (Target 6.2).

The scope of WASH is not limited to SDG 6. As illustrated in figure 1 below, there is a dynamic interdependence between SDG 6 targets and every other SDG[2].

FIGURE 1: Direct and indirect interlinkages of other SDGs to SDG 6

Source: UN-ESCAP

[1] Actiam (2020) Water: An essential element of investment portfolios. Retrieved from https://www.actiam.com/499561/siteassets/perspectives/202004-water/actiam-perspective---water---an-essential-element-of-investment-portfolios.pdf

[2] UN-ESCAP. (n.d.). Visualisation map of the interlinkages between SDG 6 and the other SDGs. Retrieved from https://www.unescap.org/%20sites/default/files/Visualisation%20of%20interlinkages%20for%20SDG%206_new.pdf

Despite impressive improvements in providing access to basic drinking water and sanitation facilities since 2000, there is **still a long way to go to achieve SDG 6 and its targets by 2030**. In fact, by 2020, 3.6 billion people still lacked access to safely managed sanitation services and 2.3 billion people to basic handwashing facilities at home[3].

If the current trends persist, billions of people will be left without critical, life-saving WASH services by 2030 and will be facing well-known **negative impacts on health**, including diarrhoeal diseases such as cholera, and other water borne diseases. According to the World Health Organization (WHO), 1.9 million of deaths could have been prevented with adequate WASH in 2016; and the Centre for Disaster Philanthropy estimates that diarrhoeal diseases are responsible for over 40% of the deaths during the critical stage of a humanitarian crisis (80% among children under the age of 2)[4,5].

The consequences of inadequate water supply and poor sanitation go beyond the effects on health. There are also negative economic effects - as shown by a WHO study in 135 low and middle-income countries where the resulting **economic losses** in 2012 ranged from 0.5 to 3.2% of GDP[6]; and **environmental impact** – the rising demand for water from energy, agriculture and industry will increase the pressure on and degrade the natural resources on which many vulnerable populations depend on for their WASH provision[7].

Before looking into the role of impact investors in WASH, it is important to understand how the sector works – its value chains, and who are the private actors involved in the provision of WASH – particularly the types of SMEs emerging in the sector in developing countries.

The **value chains for safe drinking water and sanitation** are summarised in figures 2 and 3 below. Each of them includes seven components of an ecosystem starting from the water source or waste capturing and extending until the end of life (water drainage or waste disposal). The detailed description of the value chains, and the correspondent activities and actors that interact at different levels, is included in Part I of the Handbook (see chapter 2).

FIGURE 2: Safe drinking water value chain

Value Chain

FIGURE 3: Sanitation value chain

Value Chain

[3] https://www.who.int/data/gho/data/themes/water-sanitation-and-hygiene
[4] https://disasterphilanthropy.org/issue-insight/water-sanitation-and-hygiene-wash/
[5] https://www.who.int/publications/i/item/9789240014473
[6] Ibid.
[7] https://simavi.org/what-we-do/watershed-empowering-citizens/

In developing countries where the public sector infrastructure does not fully meet the existing demand for safely managed WASH services, SMEs play a vital role across the water and sanitation value chains. Figure 4 presents a segmentation of **SMEs working in the sector** based on their offer of products (such as design, development or supply of water or sanitation equipment) and services (including water supply, sanitation installation, and desludging[8]). Their role and examples of business models being implemented are described in Part I of Handbook (see chapter 3).

FIGURE 4: WASH SMEs by products/services provided

	Water	Sanitation
Products	- Bottled water production - Water supply system spare parts - Water filter production - Pipes, plumbing equipment and pumps, including solar pumps	- Production and sales of sanitation products or related construction materials including toilet pans (of various types – cement, ceramic, plastic, etc.), concrete rings for latrine substructure, plastic septic tanks, etc.
Services	- Piped water supply service provision in rural areas - Other water sales (including from kiosks, carts, taps, wells, or rivers) - Distribution of household water treatment products - Consultancy or other short-term support to service providers such as taking on operations and maintenance (O&M) functions for other outsourced roles - Retailing water spare parts in addition to other small household products - Water treatment plant operation	- Latrine installation services - Community-scale sanitation service delivery - Associations of sanitation entrepreneurs providing loans and technical support - Desludging services (including vacuum truck operation)

Source: Institute for Sustainable Futures, University of Technology Sydney

[8] http://enterpriseinwash.info/wp-content/uploads/2016/12/ISF-UTS_Enterprise-in-WASH_Learning-Brief-2-Private-sector.pdf

? WHY SHOULD WASH MATTER TO IMPACT INVESTORS?

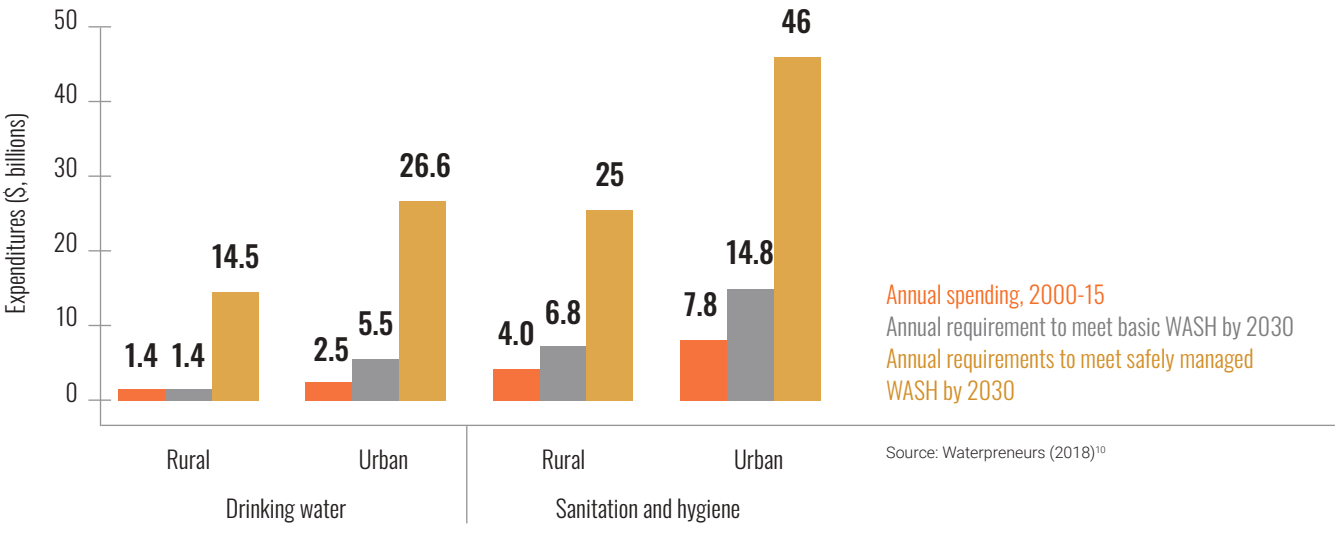
In a study from Hutton and Varughese (2016) for the Water Sanitation Program and the World Bank, the authors estimate that around USD 112 billion per year is required to deliver universal access to safe WASH services by 2030, with 63% of this investment being required in developing countries. However, current sources of funding will cover only 16% of the investment needs in new infrastructure. Countries must find new sources of finance to be able to extend WASH services and cover a larger population, and also to adequately fund operations, maintenance, and supervision of these services.[9]

At the same time, Water Equity refers to a market demand of USD 18 billion for affordable financing to meet household water and sanitation needs, and to 55 to 68% of SMEs in emerging markets being either unserved or underserved by financial institutions (FIs), hindering SMEs from providing safely managed services at scale to the underserved population.[11]

Historically considered an area catered for by the public sector, the current financing of WASH depends essentially on public funding, subsidies, or charities. However, **this funding is not, and will not, be sufficient** to meet demand and bring sustainability to the sector - the 2018-19 UN Water Global Analysis and Assessment of Sanitation and Drinking Water Report reveals that the majority of the 115 participating countries has a national plan addressing these needs (with estimated costs), but less than 20 countries reported having ensured at least 75% of the required funding to implement the plan.[12]

Thus, achieving SDG 6 targets entails **attracting more private finance** for the sector. It is expected that private investors will contribute to developing robust WASH ecosystems in developing countries, as investors build environmental, social and governance risk into their decision-making processes, and seek to act in the interests of a broader range of stakeholders.

FIGURE 5: Annual spending vs requirement to meet SDG 6 targets



Source: Waterpreneurs (2018)[10]

[9] https://www.worldbank.org/en/topic/water/publication/the-costs-of-meeting-the-2030-sustainable-development-goal-targets-on-drinking-water-sanitation-and-hygiene

[10] https://www.waterpreneurs.net/_files/ugd/2c9167_0eed97e0992c4996b1067582bb425ca0.pdf

[11] https://waterequity.org/market-demand/

[12] https://www.unwater.org/publications/un-water-glaas-2019-national-systems-to-support-drinking-water-sanitation-and-hygiene-global-status-report-2019/

? WHY IS PRIVATE INVESTMENT IN WASH SO LOW?

Private actors often **do not understand the sector** – its operations as well as the social and financial risks and returns associated with WASH investments, traditionally perceiving the market as too risky. This creates a bias against investing in WASH as investors are unsure of what they can gain from it, and this bias is reinforced by several **pre-conceived ideas** that still prevail among many investors.

The following **myths** were identified through the research conducted:

1. The public sector is the only actor in WASH financing

It is a common misconception that the WASH sector around the world is entirely owned and managed by the public sector. Even though more than 80% of the financial investments in water and sanitation have come from public sources, many developed countries have privatised water delivery systems with adequate funding and infrastructure for the same (e.g., in France, water provision has been guaranteed by the private sector since the 18th century). But also in developing countries, private WASH operators and SMEs play a vital role in catalysing universal access and connection to water and sanitation services, and in some countries such as Kenya where 70% of the drinking water is provided by the private sector and Brazil, the private sector has a significant role in building and maintaining the water and sanitation infrastructures.

2. Basic services like water should be available free of cost

In many countries, especially in rural areas, people see essential services, such as safe drinking water, as a right that should be provided to the public free of cost or at subsidised prices. However, they imply costly infrastructure and delivery operations. When services are delivered to the end-users' doorstep but the service providers are not allowed to recoup any of their expenses from these end-users, the services cannot be sustainable. There is, thus, a need to raise awareness among consumers regarding the complexity and cost of these operations, and to make services and utilities sustainable and affordable to people of all income classes. To achieve this, one of the ways forward can be focusing on community level interventions instead of interventions at household level (e.g., community level water ATMs), reducing costs by building a common infrastructure for the community.

3. Lack of interest in sanitation is primarily driven by lack of money

Another preconceived idea is that rural populations show lack of interest in improving sanitation amenities because they cannot afford it, reducing in this way the potential market for these products and services. There are, however, studies showing that this is not always the case - poorer populations tend to settle for what they have if they lack knowledge and awareness about the technical and financial solutions to respond to their needs. And they will tend to prioritise other products that they can perceive as attainable and useful. In a study conducted by the World Bank in Bangladesh, all poor families surveyed owned at least one mobile phone, which was double the cost of a standard improved toilet but was perceived as having a 'better value' and providing status. In the same study, conducted also in Indonesia, Peru and Tanzania, researchers found that 65% of those without access to improved sanitation were non-poor, living above the respective national poverty line.[13]

[13] https://www.wsp.org/sites/wsp.org/files/publications/DPSP-Sanitation-Report-Conference-Edition-WSP-August-2013.pdf

4. Solving sanitation issues is all about toilets

Access to toilets and other sanitation facilities is only one of the components of the solution. The sanitation process also includes the connection to centralised or decentralised sewage pipelines, the transport and treatment of waste, and the safe disposal of waste. The entire sanitation value chain should be managed in a sustainable manner, as every stage is critical for reaching the Sustainable Development Goals.

5. Enterprises serving the base of the pyramid are mostly micro firms because the market is small

Several studies show that this assumption is not true. A recent report published by Standard Chartered stated that a total of USD 1.25 trillion in WASH investments is required in emerging markets by 2030.[14] The above mentioned study in Bangladesh, Indonesia, Peru and Tanzania estimated the sanitation market in these countries alone to be worth USD 2.6 billion in the beginning of 2010's, and another study from the World Bank in Bangladesh, Cambodia and Benin found that the combined annual water sales in these countries is expected to increase to USD 90 million by 2025.[15] However, this potential market requires intensive efforts to develop and execute market solutions suitable to serve this underserved population, especially in developing countries, with 80% of the enterprises that actually serve the poor being micro or small enterprises, often lacking access to adequate funding and support infrastructure.

The existence of inaccurate preconceived ideas about the sector does not imply that there are no challenges for investors financing WASH projects. Table 1 below lists some of these challenges identified by Aqua for All in selected countries to mobilise private capital towards WASH SMEs.

TABLE 1: Challenges to mobilise private capital towards WASH SMEs

Country	Challenges	Consequence
Kenya	Lack of collateral from WASH SMEs that requires FIs to have high levels of provisioning in line with the International Financial Reporting Standard (IFRS) 9	Strong need for guarantees with high % coverage to allow WASH SME lending to be cost effective
	Terms of existing guarantee facilities offered (by various donors/DFIs) are very generous	Makes it hard to develop cost structure that could compete without requiring additional donor capital to remain operational
Ethiopia	Limitation to extract hard currency direct investments in local FIs	MFI's require liquidity that cannot be fulfilled exclusively via private sector investment
Bangladesh	Ecosystem is not favourable for WASH SME lending, despite a clear need for liquidity by smaller MFIs. WASH is not part of central bank list that provides incentives to FIs to grow specific sectors. Also, MFIs have historically relied on grants for their operations. Debt financing is something new to them.	Investors find it very difficult to serve the market need of small MFIs or banks. Work needs to be done at ecosystem level to open up the Bangladesh market towards WASH SME financing.
West Africa: Senegal, Mali, and Burkina	WASH sector considered informal with enterprises that lack collateral FI lending is concentrated in few (traditional) sectors, usually two or three such as commerce, construction and to lesser extend alternative sectors such agriculture, fishing, forestry and WASH	Existing lending products and terms not suited for WASH market: high interest rates, restrictive covenants, high worth of collateral needed Unfamiliarity amongst FIs and staff how to lend for WASH on household and MSME level

Source: Aqua for All

[14] https://av.sc.com/corp-en/content/docs/Standard-Chartered-Opportunity-2030.pdf
[15] https://openknowledge.worldbank.org/bitstream/handle/10986/16538/9781464801341.pdf?sequence=1&isAllowed=y

? WHAT ARE THE MAIN OPPORTUNITIES AND HOW DO WE TACKLE THE CHALLENGES OF FINANCING WASH?

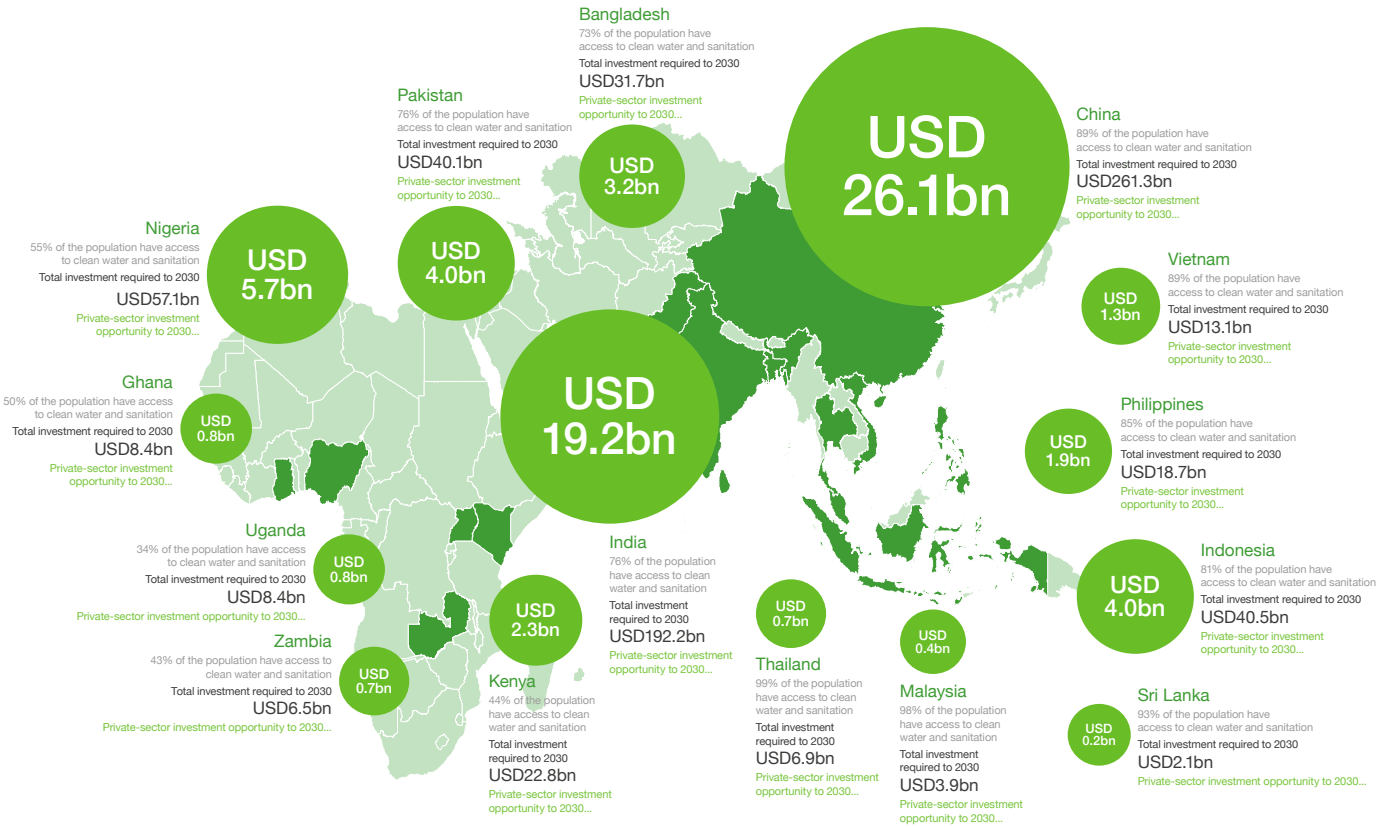
WASH has massive potential for private sector investors. Coupling the knowledge that most innovations in the sector are through private enterprises, with the fact that more than USD 1.25 trillion is required globally to meet SDG 6 targets by 2030, funds must be mobilised by governments, philanthropic initiatives, and private sectors alike to scale innovative solutions addressing a critical problem in the remotest parts of the world. Considering a 10% participation rate from the private sector, this means an investment opportunity of USD 125 billion for private investors.

The investment opportunity map prepared by Standard Chartered[16] in figure 6, shows the greatest opportunities for private sector investors considering WASH as an asset class. China and India are markets of immense potential, but from a social impact perspective the five African countries (representing a combined opportunity of USD 10.3 billion) make a good case as access to WASH services is lower in this region.

These opportunities are enhanced by a number of other factors, including:

- **Governments are increasingly mobilising to improve the investment environment for WASH.** Since public capital currently flowing to the sector is not enough to achieve SDG 6, regulatory constraints have slowly started reducing around the world. As an example, in India, WASH has now been classified as a Priority Sector Lending (PSL) by the Reserve Bank

FIGURE 6: Potential investment opportunity for universal access to clean water and sanitation



Source: Standard Chartered. Note that country-wise private sector contribution is denoted in green bubbles whereas black-text shows total requirements.

[16] https://av.sc.com/corp-en/content/docs/Standard-Chartered-Opportunity-2030.pdf

of India (RBI), which has mandated commercial banks (previously unwilling) to fund microfinance institutions providing WASH financial products.

- **The large operational footprint of microfinance institutions maximises outreach.** Many MFIs have branches spread throughout the country or region, including remote areas. This facilitates the disbursement of loans and reaching the base of the pyramid directly, which can be explored to expand geographically a WASH loan portfolio. Scaling WASH portfolios via the branch network of MFIs, also allows for a natural form of portfolio risk diversification.
- **There is growing evidence that WASH loans carry no more risk than traditional microcredit loans.** In Cambodia, for example, International Development Enterprises (iDE) has observed that sanitation loans have lower default rates (less than 2%) than their average MFI portfolio. Water.org also reports a better repayment rate (99%) on the small loans to avail WASH services provided through their WaterCredit Initiative than the one observed in many traditional MFI portfolios.
- **There has been significant progress in creating an enabling environment for WASH SMEs.** In many countries, incubators, accelerators, matchmaking platforms and development agencies support WASH entrepreneurs throughout the various stages of their projects. This involves specialised support/consultancy from experts and increases the sustainability prospects and growth potential of these projects.
- **Private SMEs have become relevant actors in the WASH ecosystem** of emerging economies (e.g., in Kenya, 70% of the water market is private), providing products and services throughout the water and sanitation value chains (in many cases, cross cutting across different stages of the value chain), and **they are often torchbearers of innovations in the sector**. In many cases, the WASH public infrastructure provides limited access, safety, and reliability to the bottom of the pyramid. SMEs can complement this infrastructure and bridge the existing gap in safe access to these services by the poorer and most vulnerable population.

To seize the investment opportunities, mobilising private capital from the commercial market is seen as the way ahead. Figure 7 lists different financing options in WASH.

To continue increasing the involvement of private social investors in the WASH market, the **development of blended finance structures and instruments** is of significant value as these structures help private sector investors to manage their risks and returns, while creating tangible social impact.

FIGURE 7: WASH Financing instruments

Different instruments for WASH financing

1. Self Financing	2. Grants	3. Equity
4. Quasi-equity	**5. Debt**	**6. Results-based financing**
- Revenue-based loan - Subordinated loan - Venture debt - Convertible note	- Bank loan - Microfinance loan - Bonds	- Impact bond - SIINC - Performance-based loan - Carbon credit

Sources: Luyendijk and Dooley (2020)[17], OECD (nd)[18], SSWM Toolbox (nd)[19]

[17] https://www.unicef.org/rosa/media/11751/file/UNICEF%E2%80%99s%20Role%20in%20Leveraging%20Financing%20for%20WASH%20in%20South%20Asia%20.pdf
[18] https://www.oecd.org/dac/financing-sustainable-development/development-finance-data/dac-glossary.htm
[19] Sustainable Sanitation and Water Management (SSWT) Toolbox: https://sswm.info/financing-water-impact/financing-instruments/grant

These blended finance solutions combine grant money with equity, quasi equity, debt, or Results-Based Financing (RBF). For example, Aqua for All deploys grant money to catalyse private funds or de-risk WASH loan portfolios and funds. Grants are allocated in the form of technical assistance, de-risking instruments (guarantees, FLC), or outcome-based payments:

A Technical assistance (TA)

This very versatile instrument can be used to strengthen and build capacity and facilitate the development of a number of activities within the target company. TA has a two-fold effect: 1) The target company improves its operations, 2) The investor's credit risk can be indirectly reduced.

Technical assistance can be used for the following activities, among others:

- Capacity building and training: This can be provided on a one-to-one basis or for a group of target companies, for instance, as part of an acceleration programme.
- Feasibility/market studies
- Product design
- Monitoring and evaluation tools
- IT systems support

Technical assistance can be offered to WASH SMEs, water service providers (WSP) and financial institutions.

B De-risking instruments

These instruments offer direct credit enhancement for specific transactions or a portfolio of transactions. The most common ones used by Aqua for All are guarantees and first/second loss capital to de-risk WASH loan portfolios.

Guarantee or first/second loss capital contribute to de-risking:

- Total WASH loan portfolio
- PAR portfolio
- Individual loans to WASH SMEs
- First loss tranche in a fund structure

De-risking instruments are used in engagements with financial institutions, WASH Funds and impact investors.

C Results-based finance (RBF)

In a results-based finance structure, grants can be used to cover the outcome payment component (incentive payment). However, grants could also serve to de-risk the RBF structure or as TA to fund impact verification and management.

Some examples of outcome payments are:

- Additional revenue to boost SMEs profits to achieve additional impact targets
- Rebate on interest rate when impact targets are achieved
- Incentive payment to staff on achieving impact targets

This instrument can be used by WASH SMEs, financial institutions, and impact investors.

These three instruments can complement debt, quasi debt, or equity instruments. Their common goal is to reduce pre-investment uncertainty on the WASH sector, build capacities of potential investees, and improve risk/return profile of investment.

Nevertheless, the blended finance solutions should not be considered as permanent, long-term arrangements, but as a short/medium-term temporary solution. Their purpose is to help develop the market. The ultimate goal, however, should be that commercial financiers and guarantee providers take over.

About the European Microfinance Platform (e-MFP)

The European Microfinance Platform (e-MFP) is the leading network of organisations and individuals active in the financial inclusion sector in developing countries. It numbers over 130 members from all geographic regions and specialisations of the microfinance community, including consultants & support service providers, investors, FSPs, multilateral & national development agencies, NGOs and researchers. Up to two billion people remain financially excluded. To address this, the Platform seeks to promote co-operation, dialogue and innovation among these diverse stakeholders working in developing countries. e-MFP fosters activities which increase global access to affordable, quality sustainable and inclusive financial services for the un(der)banked by driving knowledge-sharing, partnership development and innovation. The Platform achieves this through its numerous year-round expert Action Groups, the annual European Microfinance Week which attracts over 400 top stakeholders representing dozens of countries from the sector, the prestigious annual European Microfinance Award and its many and regular publications.

About Aqua for All

Aqua for All is a foundation operating primarily in Africa and Asia. For over two decades, we have worked towards catalysing an innovative, sustainable and inclusive water and sanitation economy worldwide.

We believe that innovation, scalable solutions, and public and private capital are needed to bridge the service and financial gap to achieve SDG 6 – Water and sanitation for all.

We use grants to accelerate providing access to water and sanitation to low-income households and institutions. We do this by supporting innovations and scaling up enterprises until they are investment ready, without distorting the market. In addition, we use our funds to mobilise private and public capital to increase investments in water and sanitation.

We are Making Water Count!

For more information, please visit: aquaforall.org

About the e-MFP WASH Action Group

The e-MFP WASH Action Group was created in 2021 to answer to a need shared by some e-MFP members, particularly investors, to better understand the Water, Sanitation and Hygiene (WASH) sector and its relevance for low-income populations in developing countries, and to be able to identify investment opportunities in the sector.

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