

A close-up photograph of a young child with dark skin, wearing a striped shirt, drinking water from their hands. A stream of water is falling from above into their cupped hands. The child's eyes are closed and they have a joyful expression. The background is a blurred, warm-toned outdoor setting.

**ECONOMIST  
IMPACT**

**Harnessing the economic  
benefits of investment  
in water, sanitation and  
hygiene in Africa**

Supported by



# Contents

- 3** The toplines: six key takeaways for Africa’s finance ministers
- 5** At a glance: investing in water, sanitation and hygiene
- 7** The access gap: improving, but slowly
- 8** Health: the economic case
- 9** Education: unlocking growth for the next generation
- 11** Gender inequality: closing the gap
  - 12** Menstrual Hygiene Management (MHM) in schools
- 13** Future resilience: generating growth and creating jobs
  - 13** The Water and Sanitation Economy: growth in goods, services and tourism sectors
  - 14** Supporting critical supply chains to improve returns on investment
  - 14** Building for the future
- 15** Investment solutions
  - 15** Challenges: WASH governance and funding
  - 16** Tariffs and water pricing
  - 17** Call for data and government investment: TrackFin by the World Health Organisation
  - 17** Reforms and coordinated action are needed
- 18** About this report
- 19** Endnotes

# The topline: six key takeaways for Africa's finance ministers

1. **Investing in water, sanitation and hygiene (WASH) not only serves as a fundamental necessity for public health, education and societal benefits but also generates substantial economic returns of up to 700%.** Every US\$1 invested in climate-resilient water and sanitation returns at least US\$7 for African economies. Sub-Saharan Africa alone could gain more than 5% of its GDP, equivalent to US\$200bn annually, if sufficient investment in water and sanitation are made.<sup>i</sup> Historically, the GDP of low-income economies with improved access to water and sanitation services grew much faster (3.7% annually), compared with those without (0.1%).<sup>ii</sup>
2. **Developing access to safe water and sanitation will disproportionately benefit women and girls, unlocking economic value while advancing gender equality and inclusion.** Sustainable Development Goal (SDG) 6 on water and sanitation for all cannot be met without addressing equal access. Across sub-Saharan Africa, women and girls collectively spend around 16m hours per day fetching water, time that could otherwise be spent on education or paid work.<sup>iii</sup> This is crucial when we consider that an additional year of education for girls in Africa leads to a 14% increase in future income, compared to an 11% increase for boys.<sup>iv</sup>
3. **Climate change, population growth and urbanisation all strengthen the economic case for water, sanitation and hygiene investment in Africa.** Population growth and urbanisation will both exacerbate the need for adequate water, sanitation and hygiene. Water plays a pivotal role in ensuring food security and is essential for achieving all the SDGs.<sup>v</sup> At least 50% more food and ten times more water for energy production is needed to enable growth and development in Africa.<sup>vi</sup> Agriculture, services, manufacturing and energy sectors all stand to gain from supply chain security and increased productivity generated by investment in water, sanitation and hygiene.
4. **Water, sanitation and hygiene services save lives and increase productivity.** Tackling diarrhoea worldwide can generate US\$86bn per year in increased productivity and reduced health costs.<sup>vii</sup> This is crucial when considering that 45% of global deaths due to diarrhoea, equivalent to 700,000 people, occur in sub-Saharan Africa.<sup>viii</sup>
5. **Realising the budgetary resources required is urgent and achievable: at least an additional US\$30bn/year needs to be invested across Africa towards water security and sustainable sanitation.**<sup>ix</sup> Existing plans show this is achievable, with



domestic resource mobilisation accounting for US\$17.5bn and savings and efficiencies from enhanced sector governance contributing US\$11.5bn. This represents an empowering opportunity for national governments, as they can raise US\$29bn independently as long as they have access to affordable capital.<sup>xvi</sup>

**6. Governments can drive transformation in the water, sanitation and hygiene sector.**

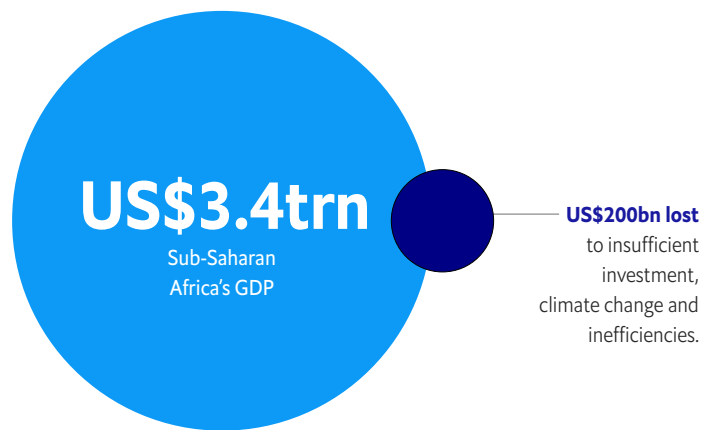
The funding challenge in the water sector stems from a historical reliance on project-

based financing and central government support. This challenge, coupled with the limited amount of sector-specific data,<sup>xii</sup> has resulted in uneven investment in the water, sanitation and hygiene sector. Governments can explore an approach that encompasses budget programming for the entire sector. This approach ideally includes key aspects such as political commitment, leadership and governance reforms to enhance the attractiveness of water as an investment opportunity.<sup>xiii</sup>



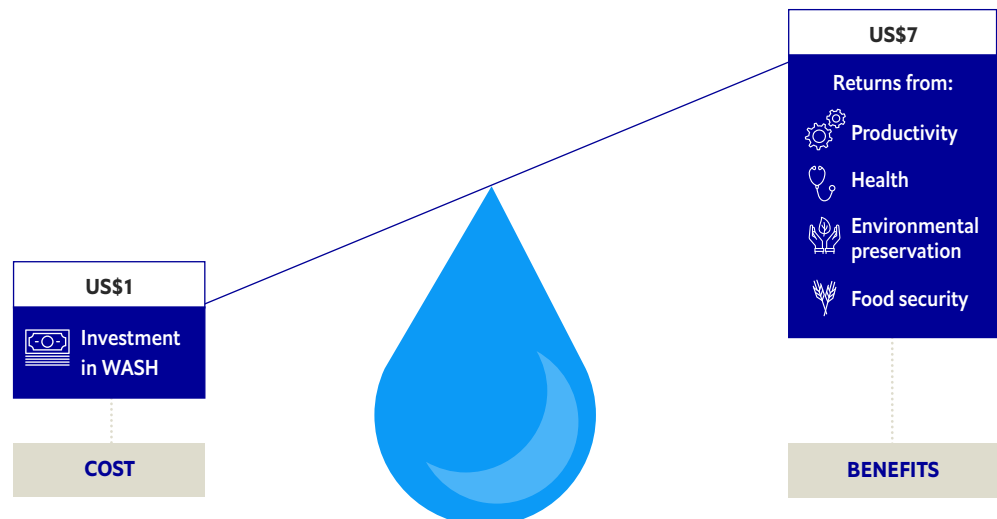
# At a glance: investing in water, sanitation and hygiene

Figure 1: Losses due to insufficient investment in Sub-Saharan Africa



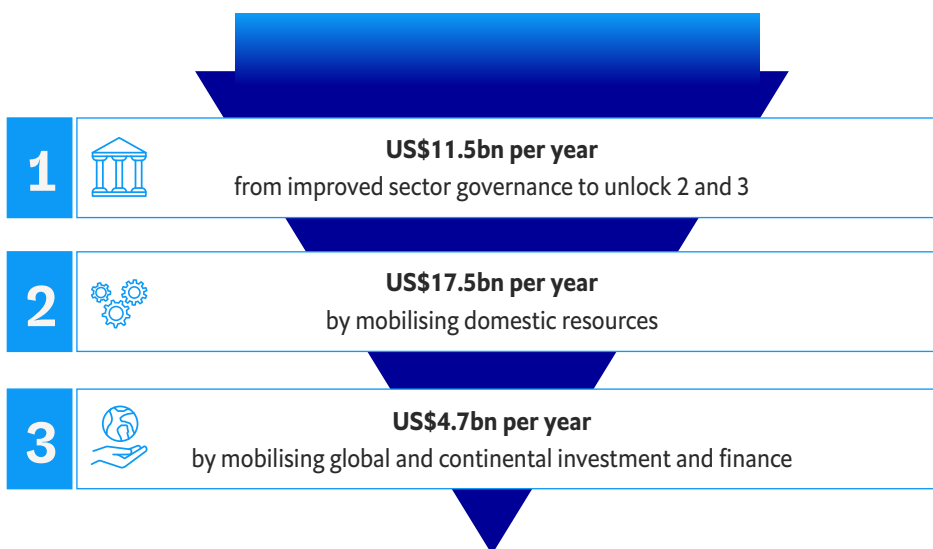
Source: Economist Impact with data from the International High Level Panel on Water Investments for Africa

Figure 2: Cost benefit ratio when investing in water, sanitation and hygiene

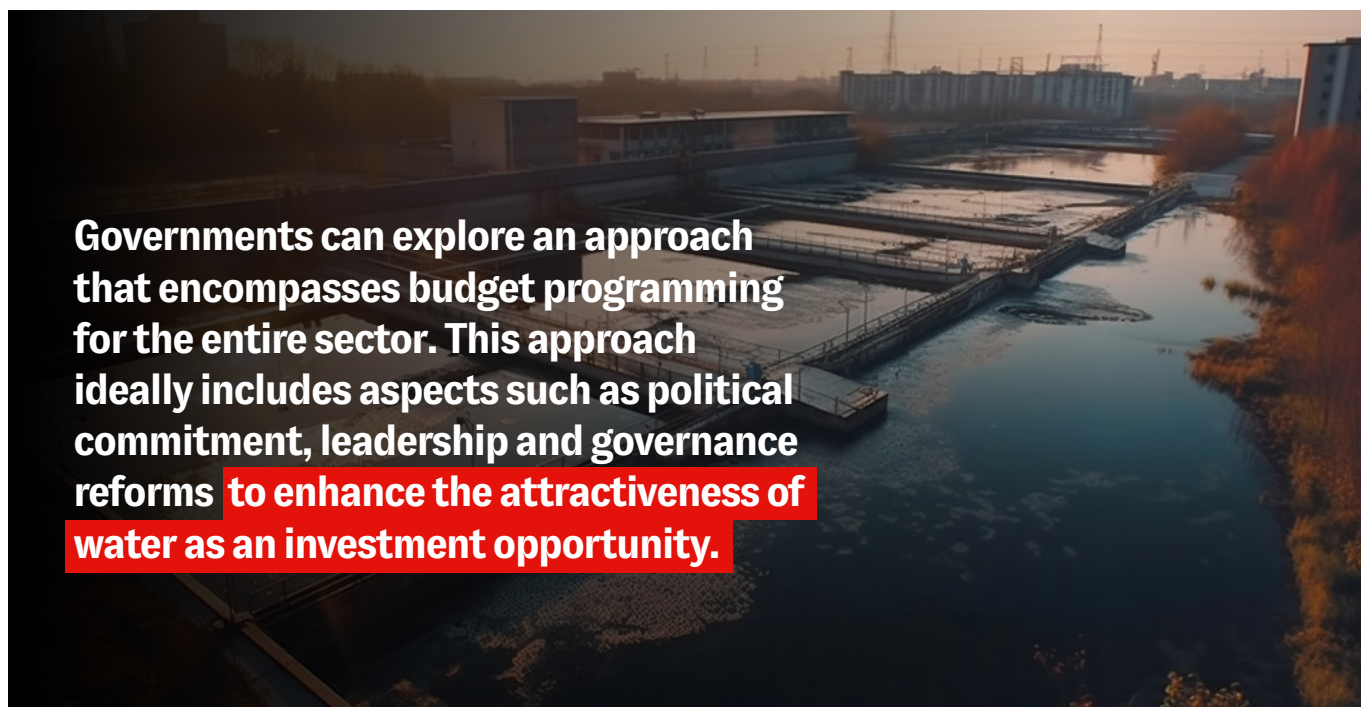


Source: Economist Impact with data from the International High Level Panel on Water Investments for Africa

Figure 3: How can we raise US\$30bn in a year to achieve water security and sustainable sanitation in Africa?



Source: Economist Impact with data from the International High Level Panel on Water Investments for Africa



**Governments can explore an approach that encompasses budget programming for the entire sector. This approach ideally includes aspects such as political commitment, leadership and governance reforms to enhance the attractiveness of water as an investment opportunity.**

# The access gap: improving, but slowly

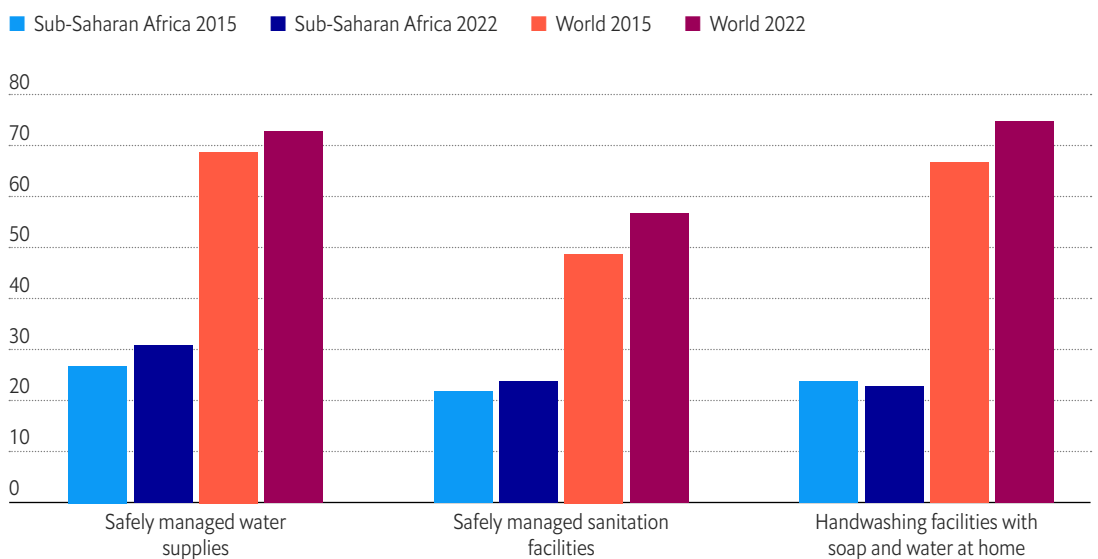
Ensuring access to **clean water and adequate sanitation** are **fundamental human rights**, yet millions of individuals in Africa still lack access to these services. While 77% of North Africa’s population have access to safely managed water and 64% have access to safely managed sanitation, these figures drop to 31% and 24% respectively for Sub-Saharan Africa (see figure 4).

Despite global efforts to achieve SDG 6, Africa remains the only region experiencing a decline

in recent years.<sup>xiv</sup> The situation is set to worsen significantly in the face of climate change, as floods and droughts exert additional financial burdens on governments that are already strained with limited capacity to respond.<sup>xv</sup>

Governments across the continent are losing up to US\$200bn annually due to insufficient investment in water, sanitation and hygiene, coupled with climate change and operational inefficiencies across the sector.<sup>xvi</sup>

**Figure 4: Proportion of the population using safely managed WASH services, 2015-2022**



Source: UNICEF/WHO Joint Monitor Programme

# Health: the economic case

## KEY MESSAGES

- Investment in water, sanitation and hygiene will save lives, cut the human, healthcare and economic costs of disease, advance gender equality and boost productivity across the continent.
- Investing in full water and sanitation coverage in Sub-Saharan Africa could potentially avert over 700,000 diarrhoea-related deaths annually.
- Tackling diarrhoea by providing safely managed sanitation services could unlock US\$86bn in productive value globally each year.

SDG 3 (health and well-being for all) cannot be achieved without adequate WASH facilities. Improved water, sanitation and hygiene services have been shown to reduce diarrhoeal disease, helminths and respiratory infections, all of which are prevalent in most sub-Saharan African countries.<sup>xvii</sup> Diarrhoea is one of the leading causes of death in Sub-Saharan Africa, accounting for more than 700,000 deaths in 2019, almost half of the number of deaths due to diarrhoea globally (45%).<sup>xviii</sup>

Ensuring everyone has a toilet where waste is safely managed can generate US\$86bn/year globally in greater productivity and reduced health costs, preventing 6bn cases of diarrhoea. A decrease in the number of days of diarrhoea

increases school and work attendance by 3bn days each year, potentially unlocking US\$420bn in productive value.<sup>xix</sup> Adequate and sufficient water, sanitation and hygiene also has the potential to reduce open defecation. Around 28% of Africa's population practise open defecation<sup>xx</sup> with faecal exposure accounting for 10–15% of all deaths in children under five.<sup>xxi</sup>

Tackling infections and epidemics is a critical benefit from investment in water, sanitation and hygiene, with continued importance across the continent. Ensuring everyone has somewhere to wash their hands with soap and water will generate US\$45bn/year globally and reduce the spread of infections in a COVID-19-like epidemic by up to 20%.<sup>xxii</sup>



# Education: unlocking growth for the next generation

## KEY MESSAGES

- Poor access to water and sanitation affects educational outcomes, with a worse impact on girls.
- A lack of safe sanitation and hygiene facilities in schools contributes to poor menstrual hygiene management, further compounding gender inclusion in education and work.
- Investing in water and sanitation supports efforts to meet SDG 4 on inclusive and equitable quality education for all while reducing school dropouts will increase earnings, tax revenue and growth.

Every child has the right to quality education (SDG 4). This cannot be achieved without having adequate water, sanitation and hygiene facilities at home and in school (SDG 6), as it impacts students' learning, health and dignity.<sup>xxiii</sup>

Water, sanitation and hygiene provision in schools stands to make a critical impact in Sub-Saharan Africa where more than half of youth aged 12-24 are out of school.<sup>xxiv</sup> In 2021, only 46% of children in schools in Sub-Saharan Africa had access to basic water services,<sup>xxv</sup> while 40% had no access at all to water services. At the same time, only 44% of children in schools had access to basic sanitation services,<sup>xxvi</sup> and 26% to basic hygiene services (see figure 5).<sup>xxvii</sup> By contrast, in Northern Africa and Western Asia, these figures stood at 73%, 86% and 70%, respectively.

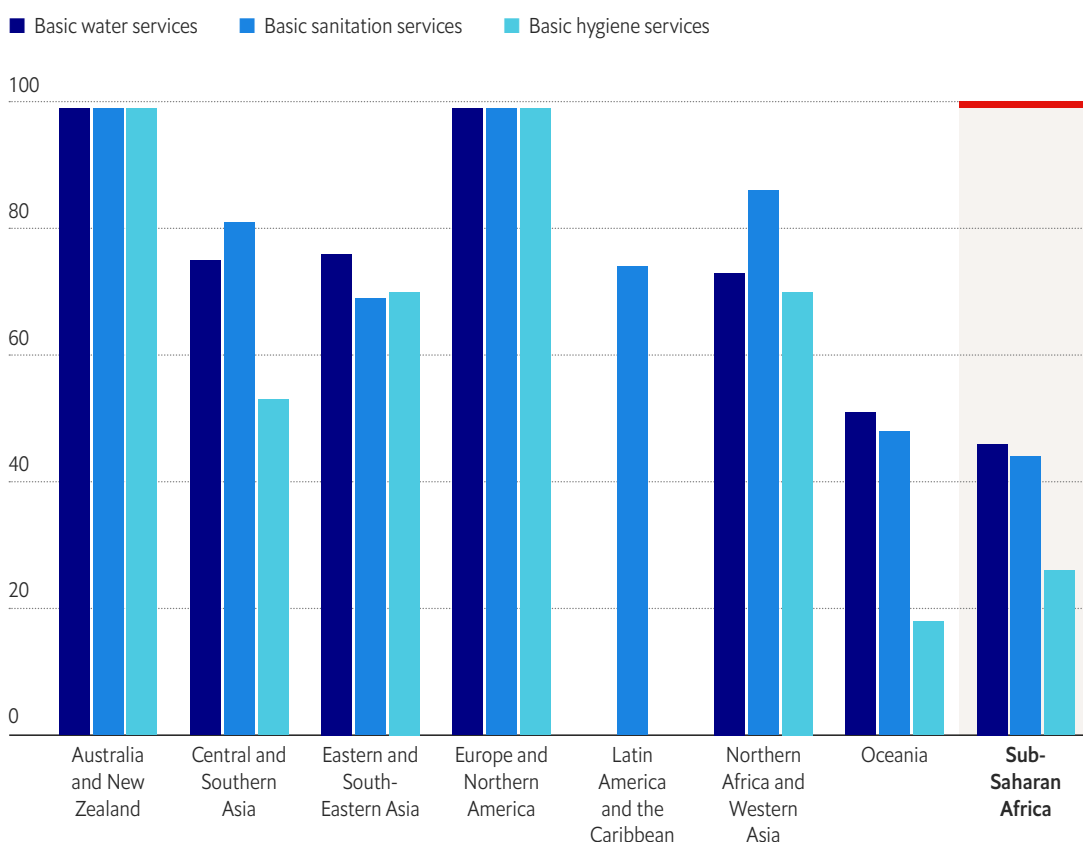
The absence of basic water, sanitation and hygiene facilities negatively affects educational outcomes for all learners. Evidence shows the absence of functional toilets in schools



diminishes attendance for both boys and girls, but girls tend to bear a greater burden.<sup>xxviii</sup> The absence of water, sanitation and hygiene facilities is also linked to increased school repetition and dropouts among girls compared

to boys, especially those aged 13+.<sup>xxix</sup> Improved sanitation facilities in schools are associated with improved female-to-male enrolment ratios and decreased repetition and dropout rates, particularly among girls.<sup>xxx</sup>

**Figure 5: Percentage of children with access to basic WASH services in schools, 2021**



Source: UNICEF/WHO Joint Monitor Programme  
 Note: Values for basic water and hygiene services for Latin America and the Caribbean are not available.

# Gender inequality: closing the gap

## KEY MESSAGES

- A lack of access to safe water, sanitation and hygiene disproportionately stifles the rights, freedoms, health and welfare of women and girls everywhere.
- Securing equal access to water and sanitation services can make a critical contribution to strengthening equality and inclusion targets, with a direct knock-on effect on economic productivity.
- SDGs and wider global equality and inclusion objectives cannot be met without addressing the availability, accessibility and affordability of water, sanitation and hygiene services.

Gender equality (SDG 5) cannot be achieved without adequate water, sanitation and hygiene facilities. In 2022, over half of the 703m people without basic drinking water lived in sub-Saharan Africa.<sup>xxxv</sup> Women and girls in the region collectively spend around 16m hours per day fetching water, time that could otherwise be spent on education or paid work.<sup>xxxvi</sup> Women are four times more likely than men to be responsible for water collection across sub-Saharan Africa as a whole, while in some countries in the region they are up to ten times more likely.<sup>xxxvii</sup>

Clean, functional, lockable, gender-segregated spaces are also needed, including access to sanitary products and disposal systems for managing menstrual hygiene and pregnancy.<sup>xxxviii</sup> Gender inequalities are likely to be greatest in countries where open defecation is practised, removing privacy and dignity and exposing women and girls to physical, sexual and verbal assault.

These factors hinder women and girls from accessing education or employment. This is particularly significant considering that an additional year of education for girls in Africa results in a 14% increase in future income, compared with an 11% increase for boys.

### MENSTRUAL HYGIENE MANAGEMENT (MHM) IN SCHOOLS

The lack of access to functional and segregated toilets, limited information on MHM and limited availability of sanitary materials to manage menstruation make it more difficult for people who menstruate to manage their periods.<sup>xxxv</sup> Poor MHM has many consequences, including exposing adolescent girls and women to reproductive organ and urogenital infections, psychosocial stress and reduced opportunities for accessing school and jobs.

**Poor MHM, including a lack of sanitation, stifles gender inclusion in education and work, with a direct knock-on impact on economic productivity.**

Data from 2020 showed 15% of girls in Burkina Faso missed school while menstruating in the previous 12 months; these figures rose to 20% and 23% for Ivory Coast and Nigeria, respectively.<sup>xxxvi</sup> An earlier study in Northeast Ethiopia reported 43-55% of girls were absent from school for 1-4 days in each menstrual period,<sup>xxxvii</sup> while 90% of students in the Ethiopian study reported their school did not have a separate female sanitary facility, considered a driver in female school dropout rates as high as 60% in some regions.<sup>xxxviii</sup>

Access to safe water, sanitation and hygiene can tackle gender discrimination, including by:<sup>xxxix</sup>

- 
**Allowing women and girls to pursue aspirations outside of the home**
- 
**Including women in decision-making, including governance and delivery of water and sanitation**
- 
**Expanding women and girls' access to resources and financial autonomy**
- 
**Developing a more equal division of labour within the home.**
- 
**Helping women and girls escape violence**

### ADDRESSING INEQUALITIES: MICROCREDIT SOLUTIONS

*WaterCredit*, a Water.org credit initiative, provides small loans dedicated to improving household water and toilets for those who need access to credit to cover the costs.<sup>xi</sup> By 2020, 6.5 million loans had been provided across 13 countries, including Ghana, Uganda, Ethiopia, Tanzania and Kenya, totalling US\$2.3 billion.<sup>xii</sup> 87% of borrowers were women. Microcredit as a financing solution for household access to water and sanitation has provided strong evidence that improved water supply and sanitation has critical impacts in terms of health, time savings, workload and safety and security for women and girls. So far, there is also some evidence that improved water supply and sanitation has differential impacts on women and girls in terms of education, financial outcomes, community engagement and empowerment.<sup>xiii</sup>



# Future resilience: generating growth and creating jobs

## KEY MESSAGES

- Investing in water, sanitation and hygiene can create jobs, deliver economic growth, increase tax income and boost investor confidence.
- Sub-Saharan Africa could increase its GDP by more than 5%, or up to US\$200bn/year,<sup>xliii</sup> with some sectors seeing a 27% boost to productivity if investments in water and sanitation are made.<sup>xliv</sup>
- Population growth and urbanisation highlights even greater potential savings, growth and resilience by investing in WASH now.

## The Water and Sanitation Economy: growth in goods, services and tourism sectors

Investing in water, sanitation and hygiene is not only a human right, but can lead to a series of economic activities and indirect benefits, such as supporting businesses and employment and generating income and growth for local and national economies. Investment in building water and sanitation infrastructure requires labour and capital inputs.<sup>xlv</sup> The operation and maintenance of the facilities also requires personnel to clean, maintain and renovate them, while toilets need products, including for cleaning and hygiene, for them to be usable.<sup>xlvi</sup> The 'Water and Sanitation Economy' generates goods and services business opportunities with particular benefits for low-

and middle-income countries.<sup>xlvii</sup> Historically, the GDP of low-income economies with improved access to water and sanitation services grew much faster (3.7% annually), compared with those without (0.1%).<sup>xlviii</sup>

Water, sanitation and hygiene play a crucial role in supporting various economic sectors, particularly those that generate employment and economic prospects in developing nations. The tourism industry, when conducted in a sustainable way, serves as a prime example in this context. Not only does it provide 1-in-11 jobs worldwide,<sup>xlix</sup> but goods and services expenditure by international tourists reached US\$1.7trn globally in 2018.<sup>l</sup> In this sense, when the local environment is marred by polluted water and unhygienic conditions, it often discourages

tourists from visiting. A decline, or reduction, in tourism has a direct impact on the income of both local residents and businesses dependent on the tourism sector.<sup>li</sup>

**Supporting critical supply chains to improve returns on investment**

Businesses rely on healthy people and communities for continuity and growth, while risks associated with a lack of water, sanitation and hygiene are increasing across critical sectors for Africa.<sup>liii</sup> Investment in water and sanitation in agricultural supply chains, for example, play a critical role in safeguarding the health, well-being and productivity of agricultural workers.<sup>liiii</sup> Investment in drinking water points, handwashing stations, rainwater harvesting systems and menstrual health and hygiene training for the tea sector in India, for example, yielded a return of more than a 200% on investment and boosted productivity by 27%.<sup>liv</sup>

**Building for the future**

Africa’s population is projected to reach 1.6bn by 2030. To sustain this growing population, the continent will require a minimum of 50% more food production and a tenfold increase in water resources for energy generation. By 2050, six out of every ten Africans will reside in urban areas, and 70% of this urban population will consist of children and youth.<sup>lv</sup> Climate change compounds the challenges, with 13m people seriously affected and an estimated US\$520m in direct economic damage annually.<sup>lvi</sup> With the continent currently losing up to US\$200bn/year due to insufficient investment in water and sanitation, coupled with the impacts of climate change and operational inefficiencies,<sup>lvii</sup> population growth and urbanisation will exacerbate risks and losses on the current trajectory. However, investing in water, sanitation and hygiene now could turn this around, generating impact and growth on a greater scale.



# Investment solutions

## KEY MESSAGES

- To meet the continent’s growing needs, at least an additional US\$30bn/year needs to be invested towards achieving water security and sanitation.<sup>lviii</sup>
- Raising an additional US\$30bn/year for water security in Africa is achievable through different mechanisms. The largest come from domestic resource mobilisation (US\$17.5bn) and efficiency gains and cost savings in the sector’s governance (US\$11.5bn). This represents an empowering opportunity for national governments, as they can raise US\$29bn just by focusing on national strategies.<sup>lix</sup>
- Investment solutions are feasible. Governments can explore an approach that encompasses budget programming for the entire sector rather than on project-based financing and central government funding. This approach ideally includes key aspects such as political commitment, leadership and governance reforms to enhance the attractiveness of water as an investment opportunity, as well as improved planning and monitoring data.<sup>lxi</sup>

Raising a further US\$30bn/year by 2030 is possible but governments and development partners need a clear roadmap. Published in 2023, the International High-Level Panel on Water Investments for Africa’s action plan to achieve water security and sustainable sanitation by 2030 outlines the areas from which a US\$30bn/year investment can be raised.<sup>lxii</sup> Among others, domestic resource mobilisation accounts for US\$17.5bn savings and efficiencies from enhanced sector governance contributes US\$11.5bn.<sup>lxiii</sup> This represents an empowering opportunity for national governments, as they can raise US\$29bn independently, as long as they have access to affordable capital. The disaggregated areas are shown in Figure 6.

## Challenges: WASH governance and funding

The water sector’s funding and governance challenge is rooted in historical practices, primarily relying on project-based financing and central government funding. This has resulted in an uneven financial landscape, with a tendency to focus on project-based funding, such as infrastructure projects, rather than having a comprehensive and programmatic approach to funding.<sup>lxiv</sup> On top of this, a lack of planning and data monitoring in the sector makes it challenging for Ministries of Water to make compelling funding requests.<sup>lxv</sup>

**Figure 6: Potential sources of funding for water, sanitation and hygiene**

**3. US\$4.7bn/year by mobilising global and continental investment and finance**

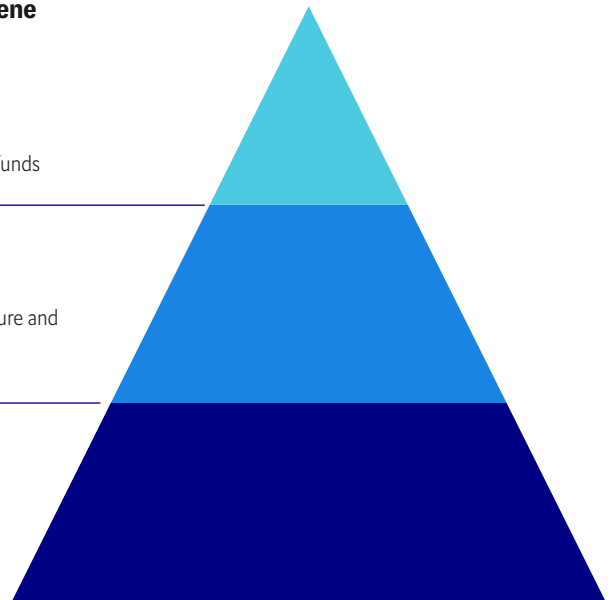
- US\$3.2bn/year from multilateral climate funds
- US\$1bn/year from multilateral/development financial institutions
- US\$0.5bn/year from bilateral official development assistance (ODA) and philanthropy funds

**2. US\$17.5bn/year by mobilising domestic resources**

- US\$10bn/year from institutional investors, including assets under management
- US\$4bn/year by introducing a 1% water tax on mineral resources
- US\$2bn/year from government budgets through a 20% higher allocation to infrastructure and increasing disbursements for staffing and maintenance
- US\$1.5bn/year from national banks, microfinance institutions and local governments

**1. More than US\$11.5bn/year from improved sector governance, which is needed to unlock 2. and 3.**

- US\$10bn/year in efficiency gains/cost savings from new assets
- US\$1.5bn/year in efficiency gains/cost savings from existing assets
- Significant additional savings generated by industries by valuing water-related risks and observing environmental standards



Source: International High Level Panel on Water Investments for Africa

Taking a more comprehensive approach, which considers the entire service area’s needs, has the potential to generate US\$200bn annually.<sup>lxvi</sup> Effecting change in the water sector requires the commitment of governments and finance ministers.<sup>lxvii</sup> Ensuring accountability is vital, particularly through robust asset management practices. Many countries, such as Morocco, South Africa, Burkina Faso and Zambia, have successfully reformed their water sector funding approaches through political will and improved utility management. However, in many regions, there is no clear mandate for such reforms.<sup>lxviii</sup>

**Tariffs and water pricing**

Tariffs currently sit below cost-recovery levels in most water and wastewater utilities in Africa. Although tariffs are not expected to fully cover

the costs,<sup>lxix</sup> one way in which the sector could receive an additional source of funding would be for businesses and private companies to internalise water and waste costs through tariffs. There is, however, a danger of setting tariffs at prohibitive levels for those most in need, perpetuating inequalities. In this sense, reviewing tariffs, transparency and inclusion at all levels are paramount.<sup>lxx</sup>

Tied to this is the need to incorporate the value of water into the decision-making process.<sup>lxxi</sup> Adequate pricing encourages more efficient water use, generates revenues and enables water systems to be invested in, extended across an entire population, maintained and renewed. It also supports the use of water-saving innovations for a sustainable water sector.<sup>lxxii</sup>



**Call for data and government investment: TrackFin by the World Health Organisation**

Despite donor funding often being perceived as contributing a large share of overall WASH funding in a country, accounts data show that in reality it is generally less than a third of overall funding to the sector.<sup>lxxxiii</sup>

The results from the World Health Organisation’s (WHO) TrackFin methodology support the notion that government funding to the WASH sector is usually quite limited. Results show that users (households and businesses/institutions) made the largest contribution to WASH sector funding, either in the form of tariffs to service providers or expenditure on self-supply. This contribution ranged from 45% in Ghana to 70% in Senegal from 2012 to 2021.<sup>lxxxiv</sup>

Despite this, there is still a need for better data to better plan, finance, manage and monitor WASH services and systems.<sup>lxxxv</sup> The availability of this kind of data can give Ministries of Water tools to make compelling funding requests.

**Reforms and coordinated action are needed**

Achieving the goal of raising an additional US\$30bn per year by 2030 is not only feasible but essential for water security and sustainable sanitation in Africa. The International High-Level Panel on Water Investments for Africa’s 2030 action plan provides a clear roadmap, emphasising domestic resource mobilisation and sector governance improvements. However, the water sector faces historical challenges,

including challenging financial landscapes and limited government funding. Implementing change relies on the commitment of heads of governments and finance ministers and entails reforms to the sector,<sup>lxxxvi</sup> careful consideration of tariffs, transparency and data collection. To secure a resilient future for water and sanitation, a comprehensive and multistakeholder approach is necessary, involving government, the private sector and civil society to ensure long-term sustainability and access to essential services for all.

# About this report



Economist Impact compiled this briefing paper, examining the advantages of investing in WASH in Africa in October 2023. The paper summarises the evidence assessing the benefits of investment in water and sanitation services, explores funding alternatives and highlights crucial aspects for finance ministers to consider when assessing the WASH sector. This research was supported by Sanitation and Water for All (SWA), but conducted independently by an Economist Impact team including Deni Portl, Daniel Hooton and Matus Samel. It draws from an extensive literature review, data audit and interviews with international and regional experts. We thank the following individuals (in alphabetical order) for their time and valuable insights:

- **Catarina Fonseca**, independent consultant, senior economist and WASH financing specialist
- **Guy Hutton**, independent consultant, senior economist and WASH financing specialist
- **Doulaye Kone**, deputy director, Bill & Melinda Gates Foundation
- **Danielle Pedi**, deputy director, Bill & Melinda Gates Foundation
- **Lesley Pories**, Global Water Leadership Programme Coordinator, Global Water Partnership

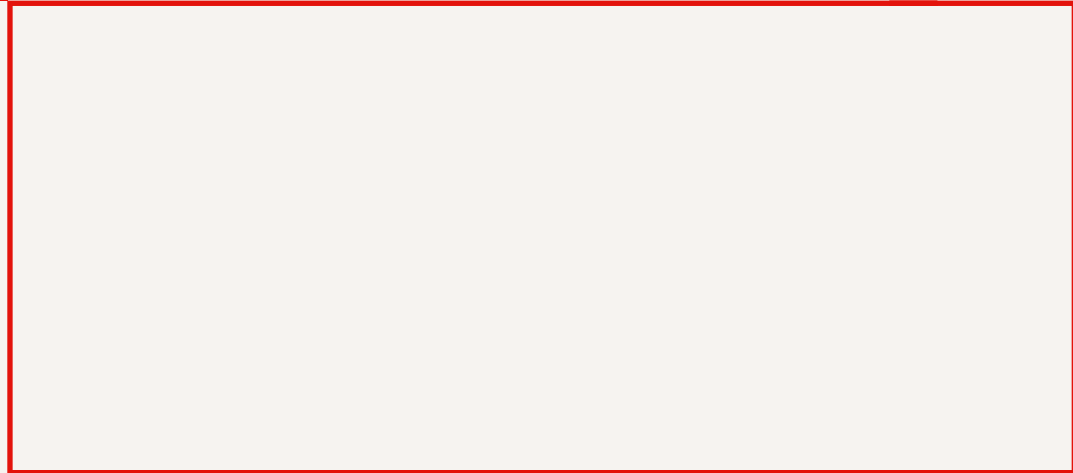
# Endnotes

- i. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%80%9C30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- ii. [https://www.sanitationandwaterforall.org/sites/default/files/2020-12/Financial%20Handbook\\_EN.pdf](https://www.sanitationandwaterforall.org/sites/default/files/2020-12/Financial%20Handbook_EN.pdf)
- iii. <https://www.oecd-ilibrary.org/sites/f315deeb-en/index.html?itemId=/content/component/f315deeb-en>
- iv. <https://www.imf.org/en/Publications/fandd/issues/2021/12/Africa-Unleashing-Women-Girls-Human-Capital#:~:text=Unleashing%20the%20human%20capital%20of,economic%20gains%20are%20well%20established.>
- v. <https://watercommission.org/wp-content/uploads/2023/03/Turning-the-Tide-Report-Web.pdf>
- vi. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%80%9C30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- vii. <https://www.wateraid.org/us/media/economic-report-unlock-trillions-of-dollars-with-clean-water-decent-toilets-and-hygiene#:~:text=%E2%80%9COur%20research%20shows%20that%20investment,fueling%20our%20own%20economic%20recovery.>
- viii. Economist Impact calculation using data from Global Burden of Disease, World Bank, United Nations and journals.
- ix. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%80%9C30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- x. Economist Impact from expert interview
- xi. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%80%9C30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- xii. Ibid
- xiii. Economist Impact from expert interview
- xiv. <https://blogs.worldbank.org/water/closing-access-gap-water-and-sanitation-eastern-and-southern-africa-raising-ambition#:~:text=Access%20to%20clean%20water%20and,the%20only%20region%20sliding%20backwards.>
- xv. <https://www.imf.org/en/Blogs/Articles/2023/08/30/africas-fragile-states-are-greatest-climate-change-casualties>
- xvi. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%80%9C30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- xvii. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9345477/>
- xviii. Economist Impact calculation using Global Burden of Disease, World Bank, United Nations data and research journals.
- xix. <https://www.wateraid.org/us/media/economic-report-unlock-trillions-of-dollars-with-clean-water-decent-toilets-and-hygiene#:~:text=%E2%80%9COur%20global%20benefit%20cost%20analysis,resilience%20to%20increasing%20global%20risks.%E2%80%9D>
- xx. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9345477/>
- xxi. <https://www.tandfonline.com/doi/pdf/10.1080/09603123.2018.1550193>
- xxii. <https://www.wateraid.org/us/media/economic-report-unlock-trillions-of-dollars-with-clean-water-decent-toilets-and-hygiene#:~:text=%E2%80%9COur%20global%20benefit%20cost%20analysis,resilience%20to%20increasing%20global%20risks.%E2%80%9D>
- xxiii. <https://data.unicef.org/topic/water-and-sanitation/wash-in-schools/>
- xxiv. [https://elibrary.worldbank.org/doi/epdf/10.1596/978-1-4648-0505-9\\_ch2](https://elibrary.worldbank.org/doi/epdf/10.1596/978-1-4648-0505-9_ch2)
- xxv. Refers to having drinking water from an improved source available at the school.
- xxvi. Improved facilities, which are single-sex and usable at the school.
- xxvii. Handwashing facilities, which have water and soap available.
- xxviii. <https://washmatters.wateraid.org/publications/women-and-wash-water-sanitation-and-hygiene-for-womens-rights-and-gender-equality-2013>
- xxix. <https://www.water-alternatives.org/index.php/alldoc/articles/vol11/v11issue2/437-a11-2-4/file>
- xxx. Ibid
- xxxi. <https://www.unicef.org/wca/media/9161/file/jmp-2023-wash-households-launch-version.pdf>
- xxxii. <https://www.oecd-ilibrary.org/sites/f315deeb-en/index.html?itemId=/content/component/f315deeb-en>
- xxxiii. <https://www.unicef.org/wca/media/9161/file/jmp-2023-wash-households-launch-version.pdf>
- xxxiv. <https://www.unwater.org/water-facts/water-and-gender>
- xxxv. <https://www.unicef.org/senegal/en/stories/menstruation-shouldnt-get-way-girls-education>
- xxxvi. <https://www.unicef.org/eap/press-releases/fact-sheet-menstrual-health-and-hygiene-management-still-out-reach-many>
- xxxvii. <https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-14-1118>
- xxxviii. Ibid
- xxxix. [https://www.sanitationandwaterforall.org/sites/default/files/2021-04/SWA%20Briefing%20Paper%20-%20WASH%20and%20gender\\_FINAL.pdf](https://www.sanitationandwaterforall.org/sites/default/files/2021-04/SWA%20Briefing%20Paper%20-%20WASH%20and%20gender_FINAL.pdf)
- xl. <https://water.org/solutions/watercredit/>
- xli. [https://water.org/documents/202/2020-08-07\\_Womens\\_Empowerment\\_in\\_WASH\\_final.pdf](https://water.org/documents/202/2020-08-07_Womens_Empowerment_in_WASH_final.pdf)
- xlii. Ibid
- xliii. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%80%9C30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- xliv. [https://washmatters.wateraid.org/sites/g/files/jkxooof256/files/boosting-business-why-investing-in-water-sanitation-and-hygiene-pays-off\\_0.pdf](https://washmatters.wateraid.org/sites/g/files/jkxooof256/files/boosting-business-why-investing-in-water-sanitation-and-hygiene-pays-off_0.pdf)
- xlvi. [https://wedc-knowledge.lboro.ac.uk/resources/books/Sanitation\\_for\\_Primary\\_Schools\\_in\\_Africa\\_-\\_Complete.pdf](https://wedc-knowledge.lboro.ac.uk/resources/books/Sanitation_for_Primary_Schools_in_Africa_-_Complete.pdf)

- xlvi. <https://www.toiletboard.org/sanitation-economy/>
- xlvii. Ibid
- xlviii. [https://www.sanitationandwaterforall.org/sites/default/files/2020-12/Financial%20Handbook\\_EN.pdf](https://www.sanitationandwaterforall.org/sites/default/files/2020-12/Financial%20Handbook_EN.pdf)
- xliv. <https://www.unwto.org/tourism-in-2030-agenda>
- l. <https://www.unwto.org/global/press-release/2019-06-06/exports-international-tourism-hit-usd-17-trillion>
- li. [https://wedocs.unep.org/bitstream/handle/20.500.11822/9432/-A%20Manual%20for%20Water%20and%20Waste%20Management\\_%20What%20the%20Tourism%20Industry%20Can%20Do%20to%20Improve%20Its%20Performance-2003648.pdf?sequence=2&amp%3BisAllowed=](https://wedocs.unep.org/bitstream/handle/20.500.11822/9432/-A%20Manual%20for%20Water%20and%20Waste%20Management_%20What%20the%20Tourism%20Industry%20Can%20Do%20to%20Improve%20Its%20Performance-2003648.pdf?sequence=2&amp%3BisAllowed=)
- lii. [https://wash4work.org/wp-content/uploads/sites/20/2023/03/WASH4Work\\_Insights-Report-2022.pdf](https://wash4work.org/wp-content/uploads/sites/20/2023/03/WASH4Work_Insights-Report-2022.pdf)
- liiii. [https://washmatters.wateraid.org/sites/g/files/jkxoof256/files/water-sanitation-and-hygiene-three-essential-ingredients-to-resilient-agricultural-supply-chains\\_1.pdf](https://washmatters.wateraid.org/sites/g/files/jkxoof256/files/water-sanitation-and-hygiene-three-essential-ingredients-to-resilient-agricultural-supply-chains_1.pdf)
- liv. [https://washmatters.wateraid.org/sites/g/files/jkxoof256/files/boosting-business-why-investing-in-water-sanitation-and-hygiene-pays-off\\_0.pdf](https://washmatters.wateraid.org/sites/g/files/jkxoof256/files/boosting-business-why-investing-in-water-sanitation-and-hygiene-pays-off_0.pdf)
- lv. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%82AC30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- lvi. <https://www.afdb.org/en/documents/water-strategy-2021-2025-towards-water-secure-africa>
- lvii. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%82AC30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- lviii. Ibid
- lix. Economist Impact from expert interview
- lx. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%82AC30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- lxi. Economist Impact from expert interview
- lxii. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%82AC30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- lxiii. Ibid
- lxiv. Economist Impact from expert interview
- lxv. Ibid
- lxvi. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%82AC30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- lxvii. [https://www.sanitationandwaterforall.org/sites/default/files/2020-12/Financial%20Handbook\\_EN.pdf](https://www.sanitationandwaterforall.org/sites/default/files/2020-12/Financial%20Handbook_EN.pdf)
- lxviii. Economist Impact from expert interview
- lxix. Ibid
- lxx. <https://aipwater.org/wp-content/uploads/2023/03/How-to-Mobilise-US%E2%82AC30-Billion-Annually-to-Achieve-Water-Security-and-Sustainable-Sanitation-in-Africa-New-York-Version-21-March-2023.pdf>
- lxxi. <https://watercommission.org/wp-content/uploads/2023/03/Turning-the-Tide-Report-Web.pdf>
- lxxii. Ibid
- lxxiii. Ibid
- lxxiv. <https://iris.who.int/bitstream/handle/10665/341793/9789240028432-eng.pdf?sequence=1>
- lxxv. <https://www.who.int/teams/environment-climate-change-and-health/water-sanitation-and-health/monitoring-and-evidence/wash-systems-monitoring/un-water-global-analysis-and-assessment-of-sanitation-and-drinking-water/wash-accounts>
- lxxvi. [https://www.sanitationandwaterforall.org/sites/default/files/2020-12/Financial%20Handbook\\_EN.pdf](https://www.sanitationandwaterforall.org/sites/default/files/2020-12/Financial%20Handbook_EN.pdf)



While every effort has been taken to verify the accuracy of this information, Economist Impact cannot accept any responsibility or liability for reliance by any person on this report or any of the information, opinions or conclusions set out in this report. The findings and views expressed in the report do not necessarily reflect the views of the sponsor.



**LONDON**

The Adelphi  
1-11 John Adam Street  
London WC2N 6HT  
United Kingdom  
Tel: (44) 20 7830 7000  
Email: london@eiu.com

**GENEVA**

Rue de l'Athénée 32  
1206 Geneva  
Switzerland  
Tel: (41) 22 566 2470  
Fax: (41) 22 346 93 47  
Email: geneva@economist.com

**SÃO PAULO**

Rua Joaquim Floriano,  
1052, Conjunto 81  
Itaim Bibi, São Paulo,  
SP, 04534-004, Brasil  
Tel: +5511 3073-1186  
Email: americas@economist.com

**NEW YORK**

900 Third Avenue  
16th Floor  
New York, NY 10022  
United States  
Tel: (1.212) 554 0600  
Fax: (1.212) 586 1181/2  
Email: americas@economist.com

**DUBAI**

Office 1301a  
Aurora Tower  
Dubai Media City  
Dubai  
Tel: (971) 4 433 4202  
Fax: (971) 4 438 0224  
Email: dubai@economist.com

**WASHINGTON DC**

1920 L street NW Suite 500  
Washington DC  
20002  
United States  
Email: americas@economist.com

**HONG KONG**

1301  
12 Taikoo Wan Road  
Taikoo Shing  
Hong Kong  
Tel: (852) 2585 3888  
Fax: (852) 2802 7638  
Email: asia@economist.com

**SINGAPORE**

8 Cross Street  
#23-01 Manulife Tower  
Singapore  
048424  
Tel: (65) 6534 5177  
Fax: (65) 6534 5077  
Email: asia@economist.com