

# Water: At What Cost?

The State of the World's Water 2016



## Introduction

Almost every day, water makes the headlines somewhere in the world. Droughts, floods and pollution are all big news, as water becomes the most precious, and most contested, essential resource.

Today, however, the biggest story is that more than 650 million¹ of the world's poorest people are living without access to an 'improved' source of drinking water (see box). The price paid by these communities – in wasted income, ill-health, and lost productivity – is extremely high, and has a devastating impact from the family to the national level.

It is often assumed that the poorest people in the world don't have formal water supplies because they cannot afford the bills. In fact, as the stories in this report show, the poorest are already paying, and often far more than fellow citizens who might be lucky enough or wealthy enough to have an 'official' water point.

In 16 countries, more than 40% of the population do not have access to even a basic water facility such as a protected well.<sup>2</sup> People from impoverished, marginalised communities have no choice but to collect dirty water from open ponds and rivers, or spend large chunks of their income buying water from vendors.

This water is always a health risk; in many cases, it proves deadly. Globally, diarrhoeal diseases caused by dirty water and poor sanitation are the second biggest child killer

after pneumonia, taking 315,000 young lives every year.<sup>3</sup>

What's more, water resources are becoming increasingly fragile as populations grow, land use changes and deforestation continues. These threats will be exacerbated by the effects of climate change and have a disproportionately large impact on poor people without a safe, reliable water supply.

Ignoring this reality is not an option. Access to affordable water is a human right: "Paying for water and sanitation services must not limit one's capacity to pay for other essential goods and services." Achieving the Global Goals for Sustainable Development will be impossible in a world where one in ten people are trapped in a cycle of poverty and disease for want of a safe, affordable water supply of their own.

In Water: At What Cost? we offer a snapshot of access to water around the world in 2016, using stories from some of the worst-affected countries to illustrate some of the issues faced.

This is an era of unprecedented progress in spreading access to clean water – 2.6 billion have been reached since 1990<sup>6</sup> – but far too many have been left behind.

As the world begins to work towards the Global Goals for Sustainable Development, we show the need, and offer solutions, for reaching everyone everywhere with safe water.

Cover image: Doris Talban lives in a slum in Port Moresby, Papua New Guinea. Her neighbourhood has just one pipe to serve 100 families. Doris has to queue for a long time, especially if the water pressure is low. Those at the end of the queue often find the water has run out by the time they get there.

Photo credit: WaterAid/Tom Greenwood



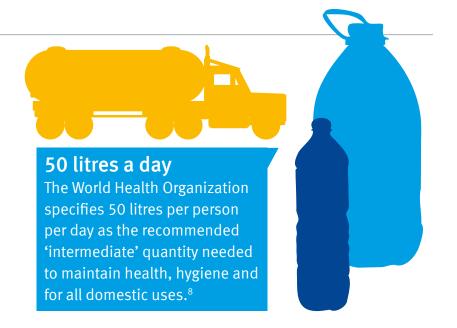
## 1. Water: at what cost?

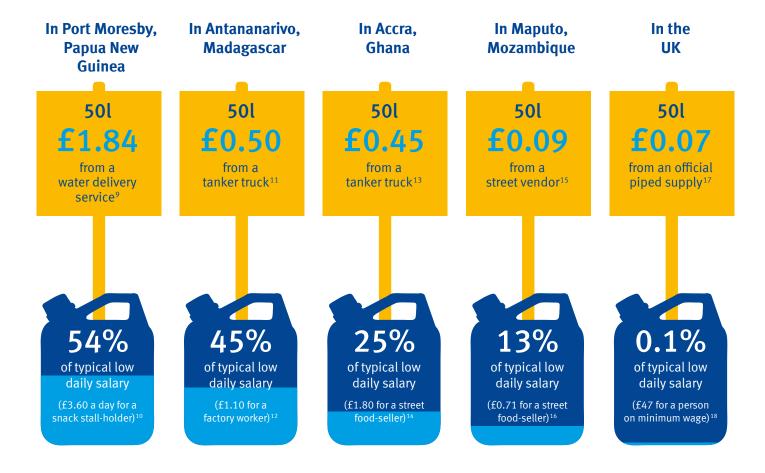
The lack of access to an affordable, convenient, improved water source is one of the biggest barriers to escaping a life of poverty and disease.

### The cost of water

For a poor person in the developing world with no access to safe water at home, buying the recommended 50 litres a day<sup>8</sup> can be a huge drain on their meagre salary. Many people have no choice but to compromise their health and dignity by using much less or collecting water from unsafe sources.

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## Four impacts of unsafe water on health and work

Diarrhoeal diseases caused by unsafe water and poor sanitation are the second biggest child killer – taking **315,000 children's lives** every year.<sup>19</sup>

#### 50% of child malnutrition

is associated with unsafe water, inadequate sanitation and poor hygiene, placing a huge burden on fragile healthcare systems.<sup>20</sup>



Walking, queuing and carrying jerrycans wastes time: in Sub-Saharan Africa, women spend a combined total of at least **16 million hours** each day collecting drinking water.<sup>21</sup>

Businesses' productivity is hit hard by **staff absenteeism**, **turnover** and **low morale** related to lack of access to clean, safe water in workplaces.<sup>22</sup>

# Three big reasons people struggle to access water

#### 1. Not enough money or political priority

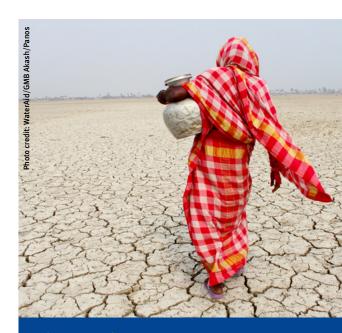
The biggest barrier to improving access to water, sanitation and hygiene has too often been the chronic under-funding of these vital services and the lack of political will to prioritise clean water and toilets for all. In many developing countries, spending on water, sanitation and hygiene services is minimal compared to health and education, and the share of aid flows going to water and sanitation also remains unacceptably low, having risen only slightly in the past ten years to 4.4% of all overseas aid.<sup>23</sup>

#### 2. Government inability to deliver

In many poor countries, although water infrastructure may be in place, effective institutions and management regimes are lacking, making it difficult to find engineers, managers and other skilled staff who can keep services running. In fragile states, the problems can be more acute, with water infrastructure and systems destroyed and needing to be rebuilt from scratch.

### 3. Deep inequalities

Those in remote and rural locations are much less likely to have a reliable water source. However, even in cities, the poorest people are often socially excluded, and rarely consulted or involved in decisions about water services. Health conditions, age, disability, gender, ethnicity or caste can marginalise a person even further. 'Slums' and informal settlements are often not served at all and, where residents are regularly facing eviction attempts, even informal water connections are difficult to maintain.



#### Climate change

Climate change is felt mainly through floods, drought, unpredictable monsoons and contaminated water. Unimproved water sources are particularly vulnerable to these factors. Open, low-level wells in flood zones can easily be contaminated. Shallow wells are more likely to run out during long dry seasons. Black-market vendors may ramp up prices even further when supplies are low and demand is high. As a result, the world's poorest people are left with unreliable, inconvenient, costly and potentially fatal ways of getting water.<sup>24</sup>



# 2. Top 10 worst countries for household water access



Table 1: **Top 10 countries with the greatest percentage of people living without access to safe water**<sup>25</sup>

Rank	Country	%
1	Papua New Guinea	60
2	Equatorial Guinea	52
3	Angola	51
4	Chad	49
5	Mozambique	49
6	Madagascar	48
7	Democratic Rep of the Congo	47
8	Afghanistan	45
9	United Republic of Tanzania	44
10	Ethiopia	43

Table 2: **Top 10 countries with the greatest numbers of people living without access to safe water**<sup>26</sup>

Rank	Country	Numbers
1	India	75,777,997
2	China	63,166,533
3	Nigeria	57,757,141
4	Ethiopia	42,251,031
5	Democratic Rep of the Congo	33,906,771
6	Indonesia	32,286,276
7	United Republic of Tanzania	23,239,992
8	Bangladesh	21,088,119
9	Kenya	17,205,557
10	Pakistan	16,096,404

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Lack of access to safe water not only makes people unwell and unproductive, it can swallow up what meagre income they earn. Some of the poorest people in the world face spending up to half of their daily wages on water from informal or illegal sources, and many times more than a neighbouring house might pay if they are connected to an official municipal supply.

## **Papua New Guinea**

## Worst in the world for percentage of population without safe water.

4.5<sup>M</sup>

People without safe water<sup>27</sup>

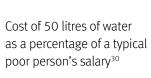
Percentage of population without safe water

800

Annual child deaths from diarrhoea<sup>28</sup>

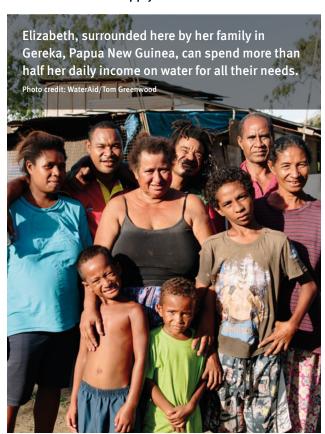
**f**1.84

Cost of 50 litres of water from a water delivery service<sup>29</sup>





A lack of safe water dominates daily life in this desperately poor country. In the mountainous, densely-forested rural areas, more than 60% of the population have no safe water supply.<sup>31</sup>



In Port Moresby, the capital city, around half of people live in informal settlements on steep slopes and flood-prone areas. Because many of these areas lie outside utility service boundaries and away from existing water mains or sewerage pipes, residents can expect to wait for many more years for a formal connection to be built. Rising seas and more frequent extreme weather events will make water supplies, and life in general, ever more fragile.<sup>32</sup>

Elizabeth Ila (pictured), 53, lives in Gereka settlement on the outskirts of Port Moresby. In a good week, she makes 100 kina (£25) from her snack stall – around 14 kina (£3.60) a day. Her husband makes about the same amount from construction labouring, but work is patchy.

"Sometimes we find it hard to get water but we are lucky to have a well," she says. As the well is unprotected, Elizabeth and her family only use the water for bathing and washing clothes. For drinking and cooking, they rely on a water delivery service called Waterboy that charges 7.5 kina (£1.84) for 50 litres – more than 50% of Elizabeth's daily income.

On the days the service doesn't turn up in Gereka, Elizabeth takes containers to fill up in another area of the city. Sometimes she has to go back and forth many times a day, which can cost up to 16 kina (£3.92) in bus fares.<sup>33</sup>

#### India

#### Worst in the world for the number of people without safe water.

75.8<sup>M</sup>

People without safe water<sup>34</sup>

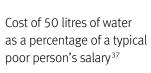
Percentage of population without safe water

140,000

Annual child deaths from diarrhoea<sup>35</sup>



Cost of 50 litres of water from a water vendor (tanker)<sup>36</sup>





Nearly 76 million people in India have no access to a safe water supply. Most of those people are living on around £3 a day.<sup>37</sup> If they have the opportunity to buy water from a tanker it can cost 1 rupee (£0.01) per litre, sometimes double if supplies are scarce.

Poor management of water resources is the biggest problem holding India back from reaching all of its population with water supplies. Aquifers provide 85% of drinking water,<sup>38</sup> but levels are falling in 56% of the country.<sup>39</sup> Hand pumps are exacerbating the

crisis in many areas by depleting shallow aquifers. Misappropriation in planning and execution of water supply projects is another key factor. And projects often use inadequate sources or pipelines do not reach habitations.

As a result, millions of people get insufficient or poor quality water. Communities fall back on a single or distant source for drinking water, often leading to disputes and increased discrimination against the main water fetchers: women and girls.



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## Mozambique

## Fifth in the world for percentage of population without safe water.

13.3<sup>M</sup>

People without safe water<sup>40</sup>

Percentage of population without safe water

7,000

Annual child deaths from diarrhoea<sup>41</sup>



Cost of 50 litres of water from a water vendor<sup>42</sup>

Cost of 50 litres of water as a percentage of a typical poor person's salary<sup>43</sup>



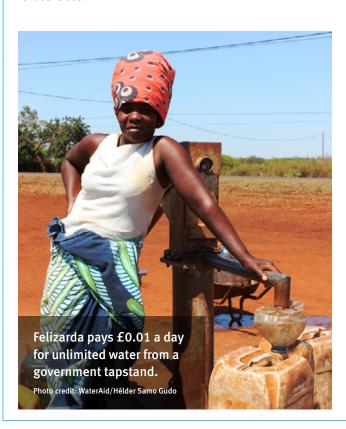
In Boane, on the outskirts of Maputo, live two mothers: Felizarda and Amelia. Both are from poor communities, but there is a world of difference in the way they access water.

Felizarda shares a government-subsidised tapstand with 500 families, with each family paying 0.6 meticais (£0.01) a day for safe, regular water.

She says, "I fetch 12 cans of 20 litres per day: sufficient for everyday basic needs of the family. I like the water source because it is located next to my house and the monthly contribution amount is bearable."

Meanwhile, Amelia and her husband live on around 100 meticais (£1.42) a day, including her income from trying to sell 50 loaves of bread each day. Her only means of obtaining water is through illegal vendors, at a cost of 2.5 meticais (£0.04) per 20-litre jerrycan.

"I need 14 jerrycans of 20 litres every day for cooking, washing, bathing for the whole family and other needs," says the mother of three. "We do not have a water source here in the neighbourhood. We have to resort to taps of some people who sell water. Every 20-litre jerrycan costs 2.5 meticais (£0.04). It's too much money. I have no formal work, I sell bread. Life is very difficult here. Today, I already paid 35 meticais (£0.51) to have water."





## Madagascar

#### Sixth in the world for percentage of population without safe water.

11.7<sup>M</sup>

People without safe water<sup>45</sup>

Percentage of population without safe water

3,000

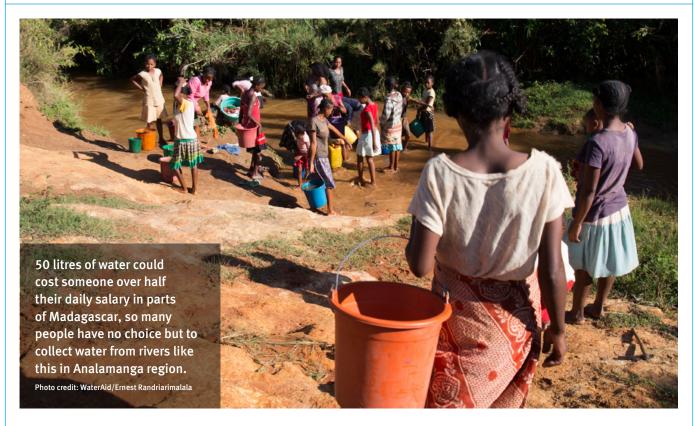
Annual child deaths from diarrhoea<sup>46</sup>

£0.50

Cost of 50 litres of water from a water vendor (tanker)<sup>47</sup>

Cost of 50 litres of water as a percentage of a typical poor person's salary<sup>48</sup>





## Water sources: Unimproved v Improved<sup>49</sup>

**Tanker:** 

50 ariary (£0.01) per litre

**Bottled water vendor:** 

1,000 ariary (£0.20) per litre

Itinerant water vendor:

20 ariary (£0.002) per litre

**Kiosk:** 

2.5 ariary (£0.0005) per litre

A government-backed water source, managed by the community, would cost around:

500 ariary (£0.11) per month per family (of approximately five people) for 10 to 20 litres a day per person.

#### **Ethiopia**

Fourth in the world for number of people without water, tenth in the world for percentage of population without safe water.

42.2<sup>M</sup>

People without safe water<sup>50</sup>

Percentage of population without safe water

15,000

Annual child deaths from diarrhoea<sup>51</sup>

£0.10

Cost of 50 litres of water from a water vendor<sup>52</sup>

Cost of 50 litres of water as a percentage of a typical poor person's salary<sup>53</sup>



Biruktawit lives in Leku Keta, in Oromia, where the taps only run three or four times a month.

"Water comes and sometimes stays on for up to three days, other times it will go off by the end of the day. The most you can store is between 200-300 litres of water in a big barrel. But with three children, that won't last me a week. So I have to buy water from water vendors for a really expensive price."

Water vendors are usually young people scraping together a living by carrying water to households with no regular supply. The vendors buy water from the utility for just 4.5 birr (£1.47) for 1,000 litres but charge customers 3 birr (£0.10) for 50 litres at the point of sale, or 30 birr (£0.98) for 50 litres to be delivered to their house.

For a low-ranking government employee, such as a caretaker or security guard, whose daily salary is around 20 birr (£0.65)<sup>53</sup>, buying the recommended 50 litres a day just for themselves would cost 15% of their salary if they carried it home themselves or 150% if they had it delivered. Faced with these costs, many people buy much less or collect water from a nearby river.

In central Addis Ababa, a typical middle-class household pays the utility company around 15 birr (£0.49) for a month's supply of constant, piped water: over 100 litres a day. Per litre, that's 20 times less than buying water from a tap-stand vendor.<sup>54</sup>



#### **Zambia**

## 21st out of 199 countries for percentage of population without safe water.<sup>55</sup>

5.4<sup>M</sup>

People without safe water<sup>56</sup>

Percentage of population without safe water

3,000

Annual child deaths from diarrhoea<sup>57</sup>

£0.09

Cost of 50 litres of water from a water vendor<sup>58</sup>

Cost of 50 litres of water as a percentage of a typical poor person's salary<sup>59</sup>



Jennifer Chikwanda 36, is a housewife and mother of seven living in the N'gombe district of Lusaka, Zambia. She says the cost of water is increasingly unaffordable.

Like all of her neighbours, Jennifer and her husband, a security guard, have no proper water supply or sewerage services. They have no choice but to buy water from vendors in a nearby, more affluent suburb. Richer people drill boreholes at their premises and then sell containers to people like Jennifer with no supply of their own.

"We spend 6 kwacha (£0.38) per 210-litre drum and here at home we use a minimum of two drums so we end up spending 12 kwacha (£0.76) per day for our water needs," said Jennifer.

With an average daily income of 33 kwacha (£2.08), the cost for Jennifer and Joseph of meeting their family's water needs takes up at least 37% of their money.

For those in the city lucky enough to have a piped supply, Lusaka Water and Sewerage Company charge just 3.93 kwacha (£0.25) for 30,000 litres of water, or £0.0004 for 50 litres.<sup>60</sup>



# 3. Top 20 most improved countries for water access

This is an era of unprecedented progress in reaching the world's poorest people with safe water. The Millennium Development Goal target for halving the proportion of the planet's population without safe drinking water was met in 2010, well ahead of the 2015 deadline. 61 Over 90% of people now have access to improved sources of drinking water.

Yet, even in countries that have made the most impressive progress in reaching people over the past 15 years, tens of millions of people are still unserved with their basic human right to safe water. The stories here show that, while there is much to celebrate, the stark inequality between the haves and have-nots in these nations urgently needs to be addressed.

Table 3: Top 20 countries who have made the greatest improvement in increasing access to safe water<sup>62</sup>

Rank	Country	Year 2000 population with access to safe water (%)	Year 2015 population with access to safe water (%)	2000-2015 increase population with access to safe water (percentage points)
1	Cambodia	41.6	75.5	33.9
2	Mali	46.6	77.0	30.4
3	Lao People's Democratic Republic	45.5	75.7	30.2
4	Ethiopia	28.9	57.3	28.4
5	Malawi	62.5	90.2	27.7
6	Guinea-Bissau	52.1	79.3	27.2
7	Afghanistan	30.3	55.3	25.0
8	Paraguay	73.4	98.0	24.6
9	Uganda	56.4	79.0	22.6
10	Burkina Faso	59.9	82.3	22.4
11	Swaziland	51.9	74.1	22.2
12	Vietnam	77.4	97.6	20.2
13	São Tomé and Principe	78.2	97.1	18.9
14	Vanuatu	75.8	94.5	18.7
15	Ghana	70.5	88.7	18.2
16	Timor-Leste	54.3	71.9	17.6
17	Nigeria	51.8	68.5	16.7
18	Bhutan	83.9	100.0	16.1
19	Sri Lanka	79.7	95.6	15.9
20	Mauritania	42.0	57.9	15.9

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#### Cambodia

## Most improved country for increasing safe water access since 2000.

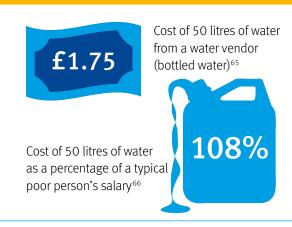
3.8M

People without safe water<sup>63</sup>

Percentage of population

600

Annual child deaths from diarrhoea<sup>64</sup>





Cambodia has had a tumultuous recent past. Because of the genocide and social engineering by the Khmer Rouge regime, an entire generation of professionals was lost, creating major shortages of skilled engineers, technicians and health professionals. The first wave of post-conflict graduates is now emerging, helping to drive their country's development. Progress in access to water has gone hand-in-hand with poverty reduction and the country's rapid economic growth since 1990; the capital Phnom Penh now enjoys almost universal water coverage.

However, 80% of people live in the countryside, many in extreme poverty. There are an estimated 500,000 borehole wells across Cambodia<sup>67</sup>, but there is inadequate investment in teaching people how to care for water technologies. And a weak national system of maintenance means that functionality is patchy.

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#### **Burkina Faso**

## 10th most improved country in increasing safe water access since 2000.

3.2<sup>M</sup>

People without safe water<sup>68</sup>

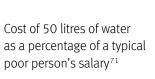
Percentage of population without safe water

4,000

Annual child deaths from diarrhoea<sup>69</sup>



Cost of 50 litres of water from a water vendor<sup>70</sup>







During the 1980s, water coverage spread rapidly as an integral part of national housing development across Burkina Faso. The utility ONEA (National Office of Water and Sanitation) remains in public hands, with the government implementing low-cost subscriptions and tariffs for poor communities.

Despite political difficulties, the recent improvements in access to safe water have been driven by government leadership, strong political will and partnerships between the public and private sectors. However, much needs to be done to reach almost one-fifth of the population who have so far missed out.

#### Ghana

#### 15th most improved country in increasing safe water access since 2000.

People without safe water72

Percentage of population without safe water

3,000

Annual child deaths



Cost of 50 litres of water from a water vendor74



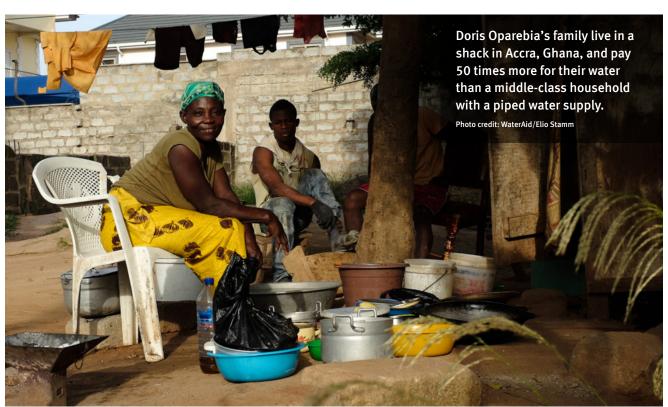
from diarrhoea<sup>73</sup>

As piped water supplies are erratic or even non-existent in many parts of the capital city Accra, residents are forced to acquire water in other ways. For those who can afford it, large quantities are delivered to their homes by trucks and stored in tanks or barrels; those with more modest means must purchase it daily by the bucket.

Doris Oparebia (pictured) lives in a shack next to a hotel construction site in Accra. She lives on 10 cedis a day (£1.80), earned by cooking and selling meals to the construction workers. For water, she relies on the water truck making daily deliveries to the area.

For 0.5 cedis (£0.09) they can buy a 10-litre bucket from the tanker. To buy enough to provide for a typical poor family's consumption of 100 litres a day would cost someone 50% of their daily income.

Middle-class house owners who can afford a household water tank pay 0.16 cedis (£0.03) per ten litres - three times cheaper. And people with a piped supply pay the Ghana Water Company as little as 0.01 cedis (£0.002) per ten litres – about 50 times less than Doris pays. 76



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## 4. What we can do about it

World leaders are committed to reaching everyone everywhere with safe water and sanitation by 2030 – this is Goal 6, signed off in September 2015 by all 193 UN member states as part of the 17 Global Goals for Sustainable Development.<sup>77</sup>

Even without this historic agreement, the combination of health and economic benefits makes an overwhelming case for urgent political action. To install a basic water facility and functioning toilet, and keep them going for 10 years, can cost as little as £70 per person. Rand, for every £1 invested in water and sanitation, an average of at least £4 is returned in increased productivity, primarily based on improved health and more time to work. Rand and Sanitation and Sanitation are time to work. And Sanitation are time to work are and many more children would be saved every year, and many more children would have the nutrition they need to grow and live full lives.

Now that the Global Goals for Sustainable Development have been signed, with universal access to safe water a dedicated target, we need to see more political priority given to increasing and targeting resources at those in most urgent need. This means increased funding from donor and developing governments, affordable tariffs and connections, and a vibrant, well-regulated sector to create reliable, accessible water services that can be used by everyone.<sup>80</sup>

For every **£1** invested in water and sanitation...



an average of at least £4<sup>79</sup> is returned in increased productivity, primarily based on improved health and more time to work.



# WaterAid calls for the following urgent actions to reach everyone everywhere with safe water:

- Governments must bring about a dramatic and long-term increase in public and private financing
  for water, sanitation and hygiene, building the strong national systems needed to achieve
  universal access to sustainable services.
- Donor governments must target crucial aid at the countries and communities that need it most, and align it to national systems and plans.
- Governments and aid donors must prioritise reaching the poor and marginalised with improvements to services, and must ensure that they are affordable to all.
- Private and public sectors need to cooperate more effectively to achieve universal access to water, sanitation and hygiene in workplaces, communities, and throughout supply chains. The emerging UNICEF initiative 'WASH4Work' is a key opportunity to bring together businesses, governments and multilateral agencies in service of this goal.<sup>81</sup>
- Governments must take an integrated approach, ensuring that improving access to water, sanitation and hygiene services is embedded in plans, policies and programmes on health, nutrition, education, gender equality and employment.
- Governments must ensure that the pledges made at the 2015 Paris climate summit are implemented.
   Finance flows for climate adaptation must be increased, and the channels through which they will
   flow must be clarified, so that the poorest and most vulnerable communities are able to adapt to
   the impacts of climate change. Increasing water security for these communities must be deemed
   a suitable adaptation mechanism and made a priority within adaptation plans.

## **Appendix:**

# State of the World's Water: percentage of population living without access to safe water, lowest to highest, 2016<sup>82</sup>

Country	% of population without access	Country	% of population without access
American Samoa	0	Sweden	0
Andorra	0	Switzerland	0
Armenia	0	Tokelau	0
Australia	0	Turkey	0
Austria	0	United Kingdom	0
Bahrain	0	Bhutan	0
Belgium	0	United States Virgin Islands	0
Cyprus	0	Martinique	0
Czech Republic	0	Cook Islands	0.1
Denmark	0	Bosnia and Herzegovina	0.1
Finland	0	Mauritius	0.1
France	0	Canada	0.2
French Polynesia	0	Barbados	0.3
Georgia	0	Belarus	0.3
Germany	0	Uruguay	0.3
Greece	0	Montenegro	0.3
Greenland	0	Democratic People's Republic of Kore	a 0.3
Hungary	0	Estonia	0.4
Iceland	0	United Arab Emirates	0.4
Israel	0	Croatia	0.4
Italy	0	Tonga	0.4
Japan	0	Guam	0.5
Luxembourg	0	Slovenia	0.5
Malta	0	Belize	0.5
Monaco	0	Bulgaria	0.6
Netherlands	0	Egypt	0.6
New Zealand	0	TFYR Macedonia	0.6
Norway	0	Guadeloupe	0.7
Portugal	0	Latvia	0.7
Qatar	0	United States of America	0.8
Romania	0	Serbia	0.8
Singapore	0	Réunion	0.9
Slovakia	0	Argentina	0.9
Spain	0	Kuwait	1.0

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Country	% of population without access	Country	% of population without access
Chile	1.0	Trinidad and Tobago	4.9
Montserrat	1.0	Albania	4.9
Samoa	1.0	Saint Vincent and the Grenadines	4.9
Lebanon	1.0	Cuba	5.1
Maldives	1.4	Suriname	5.2
Niue	1.5	Panama	5.3
New Caledonia	1.5	Marshall Islands	5.4
Bahamas	1.6	Anguilla	5.4
Poland	1.7	Vanuatu	5.5
Saint Kitts and Nevis	1.7	India	5.9
Guyana	1.7	El Salvador	6.2
Malaysia	1.8	Jamaica	6.2
Brazil	1.9	Oman	6.6
Aruba	1.9	Gabon	6.8
Paraguay	2.0	South Africa	6.8
Ireland	2.1	Venezuela	6.9
Antigua and Barbuda	2.1	Kazakhstan	7.1
Thailand	2.2	Guatemala	7.2
Costa Rica	2.2	Philippines	8.2
Tunisia	2.3	Cape Verde	8.3
Tuvalu	2.3	Nepal	8.4
Vietnam	2.4	Pakistan	8.6
Northern Mariana Islands	2.5	Colombia	8.6
Cayman Islands	2.6	Honduras	8.8
São Tomé and Principe	2.9	Namibia	9.0
Saudi Arabia	3.0	Gambia	9.8
Russian Federation	3.1	Malawi	9.8
Jordan	3.1	Syrian Arab Republic	9.9
Grenada	3.4	Comoros	9.9
Lithuania	3.4	Bolivia	10.0
Nauru	3.5	Djibouti	10.0
Saint Lucia	3.7	Kyrgyzstan	10.0
Botswana	3.8	Micronesia	11.0
Ukraine	3.8	Ghana	11.3
Iran	3.8	Moldova	11.6
Mexico	3.9	Indonesia	12.6
Seychelles	4.3	Azerbaijan	13.0
Fiji	4.3	Nicaragua	13.0
Sri Lanka	4.4	Ecuador	13.1
China	4.5	Bangladesh	13.1

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% of population

No data

No data No data

Country	% of population	Country
	without access	
Peru	13.3	Haiti
Iraq	13.4	Ethiopia
Morocco	14.6	<b>United Republic</b>
Dominican Republic	15.3	Afghanistan
Algeria	16.4	Democratic Repu
Burkina Faso	17.7	Madagascar
Côte d'Ivoire	18.1	Mozambique
Lesotho	18.2	Chad
Solomon Islands	19.2	Angola
Myanmar	19.4	<b>Equatorial Guine</b>
Guinea-Bissau	20.7	Papua New Guin
Uganda	21.0	Bermuda
Senegal	21.5	British Virgin Isla
Benin	22.1	Brunei Darussala
Mali	23.0	Channel Islands
Zimbabwe	23.1	China, Hong Kon
Guinea	23.2	China, Macao SA
Congo	23.5	Dominica
Rwanda	23.9	Faeroe Islands
Burundi	24.1	Falkland Islands
Lao People's Democratic Republic	24.3	French Guiana
Cameroon	24.4	Isle of Man
Liberia	24.4	Libya
Cambodia	24.5	Liechtenstein
Swaziland	25.9	Mayotte
Tajikistan	26.2	Netherlands Ant
Timor-Leste	28.1	Palau
Nigeria	31.5	Puerto Rico
Central African Republic	31.5	Republic of Korea
Kiribati	33.1	San Marino
Zambia	34.6	Somalia
Mongolia	35.6	Sudan
Kenya	36.8	Turkmenistan
Togo	36.9	Turks and Caicos
Sierra Leone	37.4	Uzbekistan
South Sudan	41.3	Western Sahara
Palestine	41.6	Yemen
Niger	41.8	
Mauritania	42.1	
Eritrea	42.2	

70 of population
without access
42.3
42.7
44.4
44.7
47.6
48.5
48.9
49.2
51.0
52.1
60.0
No data

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#### References

- 1 World Health Organization/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (2015): www.wssinfo.org
- World Health Organization/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (2015): www.wssinfo.org
- 3 UNICEF (2015). These are child deaths after the neonatal period: www.unicef.org/ publications/files/APR\_2015\_9\_Sep\_15. pdf
- 4 United Nations (2015), Report of the Special Rapporteur on the human right to safe drinking water and sanitation: www.righttowater.info/wp-content/ uploads/2015\_SR\_WatSan\_Affordability\_ HRC\_30.pdf
- 5 www.globalgoals.org
- 6 WASHwatch: www.washwatch.org
- 7 World Health Organization/UNICEF definitions: www.wssinfo.org/definitionsmethods/watsan-ladder
- 8 World Health Organization (2003): www.who.int/water\_sanitation\_health/ diseases/en/WSH03.02.pdf
- 9 WaterAid (2016).
- 10 Government of Papua New Guinea: official minimum wage is K2.35 an hour – approx. K100 a week.
- 11 WaterAid (2016).
- 12 Belavabary Mayoral Office, Madagascar (2015).
- 13 WaterAid (2015).
- 14 WaterAid (2015).
- 15 WaterAid (2016).
- 16 WaterAid (2016).
- 17 Based on Severn Trent Water measured charges (2016). Prices vary around the UK.
- 18 Seven hours at UK minimum wage of f6.70 = f46.90 gross.
- 19 World Health Organization/UNICEF (2015). These are child deaths after the neonatal period: www.unicef.org/publications/ files/APR\_2015\_9\_Sep\_15.pdf
- 20 World Health Organization (2008)
  Safer water, better health: Costs,
  benefits and sustainability of
  interventions to protect and promote
  health: http://whqlibdoc.who.int/
  publications/2008/9789241596435\_eng.
  pdf
- 21 World Health Organization/UNICEF (2012) Progress on Drinking Water and Sanitation 2012 Update: www.wssinfo. org/fileadmin/user\_upload/resources/ JMP-report-2012-en.pdf
- 22 Overseas Development Institute (2015)

  Private sector and water supply, sanitation
  and hygiene: www.odi.org/sites/odi.org,
  uk/files/odi-assets/publications-opinionfiles/9930.pdf
- 23 Organisation for Economic Co-operation and Development Creditor Reporting System database (2016). Over the last ten years, the share of water and sanitation official development assistance (ODA) has risen slightly from 3.4% of total ODA in 2005 to 4.4% in 2014.

- 24 WaterAid (2015) *Universal access by* 2030: will there be enough water?: www. wateraid.org/what-we-do/our-approach/research-and-publications/view-publication?id=f0b57497-8bf8-47c7-90a4-e3a01f20c0fe
- 25 World Health Organization/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (2015): www.wssinfo.org
- 26 World Health Organization/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (2015): www.wssinfo.org
- 27 WASHwatch: www.washwatch.org
- 28 WASHwatch: www.washwatch.org
- 29 WaterAid (2016).
- 30 Government of Papua New Guinea: official minimum wage is K2.35 an hour approx. K100 a week.
- 31 World Health Organization/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (2015): www.wssinfo.org
- 32 UN Habitat (2013): www.fukuoka. unhabitat.org/programmes/ccci/pdf/Port\_ Moresby\_Papua\_New\_Guinea\_Climate\_ Change\_Vurnerability\_Assessment\_2014. pdf
- 33 All information in this case study is from WaterAid (2016).
- 34 WASHwatch: www.washwatch.org
- 35 WASHwatch: www.washwatch.org
- 36 WaterAid (2016).
- 37 The World Bank (2014): http://data. worldbank.org/indicator/SI.SPR.PC40. £3 a day.
- 38 Central Ground Water Board, Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India (2014): www.cgwb.gov.in/documents/ Dynamic-GW-Resources-2011.pdf
- 39 Central Ground Water Board, Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India (2013): www.cgwb.gov.in/Ground-Water/GROUND%20WATER%20LEVEL%20 SCENARIO\_PreMon\_2013.pdf
- 40 WASHwatch: www.washwatch.org
- 41 WASHwatch: www.washwatch.org
- 42 WaterAid (2016).
- 43 WaterAid (2016). £0.71 for a street food-seller.
- 44 All information in this case study is from WaterAid (2016).
- 45 WASHwatch: www.washwatch.org
- 46 WASHwatch: www.washwatch.org
- 47 WaterAid (2016).
- 48 Belavabary Mayoral Office, Madagascar (2015). £1.10 for a factory worker.
- 49 WaterAid (2016).
- 50 WASHwatch: www.washwatch.org
- 51 WASHwatch: www.washwatch.org
- 52 WaterAid (2016).
- 53 Addis Fortune (2014): http://addisfortune. net/articles/government-announcesscale-of-civil-servant-salary-increment. £0.65 for low-ranking government employee.

- 54 All information in this case study is from WaterAid (2016).
- 55 There is data for water access in 199 countries: www.wssinfo.org
- 56 WASHwatch: www.washwatch.org
- 57 WASHwatch: www.washwatch.org
- 58 WaterAid (2016).
- 59 WaterAid (2016).
- 60 All information in this case study is from WaterAid (2016).
- 61 UNICEF (2012): www.unicef.org/media/ media\_61922.html
- 62 World Health Organization/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (2015): www.wssinfo.org
- 63 WASHwatch: www.washwatch.org
- 64 WASHwatch: www.washwatch.org
- 65 WaterAid (2016).
- 66 The World Bank (2014): www.worldbank. org/en/news/press-release/2014/02/20/ poverty-has-fallen-yet-many-cambodiansare-still-at-risk-of-slipping-back-intopoverty. £1.62.
- 67 Government of Cambodia, Ministry of Rural Development (2015).
- 68 WASHwatch: www.washwatch.org
- 69 WASHwatch: www.washwatch.org
- 70 WaterAid (2016).
- 71 L'Enquête Intégrale sur les Conditions de Vie des Ménages (EICVM – Burkina Faso) (2009). £0.88 per day.
- 72 WASHwatch: www.washwatch.org
- 73 WASHwatch: www.washwatch.org
- 74 WaterAid (2015).
- 75 WaterAid (2015).
- 76 All information in this case study is from WaterAid (2015).
- 77 www.globalgoals.org
- 78 WASHCost and WaterAid (2014).
- 79 Hutton (2012) Global costs and benefits of drinking-water supply and sanitation interventions to reach the MDG target and universal coverage, World Health Organization: www.who.int/water\_sanitation\_health/publications/2012/globalcosts.pdf
- 80 WaterAid (2015) Financing universal access to water, sanitation and hygiene by 2030: www.wateraid.org/what-we-do/our-approach/research-and-publications/view-publication?id=52b40e9b-d6af-4633-9f03-619962860e8b
- 81 WASH4Work is a proposed umbrella movement that would bring together businesses, governments and multilateral agencies with the goal of ensuring that all employees have access to WASH in their places of work: www.odi.org/sites/odi.org. uk/files/odi-assets/publications-opinion-files/9930.pdf
- 82 World Health Organization/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (2015): www.wssinfo.org

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