IRC

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IRC Trends Analysis, 2016–2025

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Supporting water sanitation and hygiene services for life

At IRC, we believe that turning on a working tap should not be a surprise or cause for celebration.

We believe in a world where water, sanitation and hygiene services are fundamental utilities that everyone is able to take for granted. For good.

We face a complex challenge. Every year, thousands of projects within and beyond the WASH sector fail – the result of short-term targets and interventions, at the cost of long-term service solutions.

This leaves around a third of the world's poorest people without access to the most basic of human rights, and leads directly to economic, social and health problems on a global scale. IRC exists to continually challenge and shape the established practices of the WASH sector.

Through collaboration and the active application of our expertise, we work with governments, service providers and international organisations to deliver systems and services that are truly built to last.

IRC Trends Analysis, 2016–2025

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This report analyses global and regional trends for 2016–2025 that are important to IRC. Its purpose is to support IRC in developing a new strategy centred on the Sustainable Development Goals. The report seeks to anticipate and explain 11 uncertain trends in the WASH sector, the wider development world and specifically, Dutch development assistance policy.

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Abbreviations

BRICS	Brazil, Russia, India, China, South Africa
FDI	foreign direct investment
GDP	gross domestic product
GLAAS	Global Annual Assessment on Sanitation and Drinking Water
GNI	gross national income
HDI	Human Development Index
ICT	information and communications technology
IRC	IRC International Water and Sanitation Centre
LDC	least-developed country
MDG	Millennium Development Goal
O&M	operation and maintenance
ODA	official development assistance
OECD	Organisation for Economic Co-Operation and Development
PPP	public-private partnership
SDG	Sustainable Development Goal
UN	United Nations
WASH	water, sanitation and hygiene
WHO	World Health Organisation

Introduction

2016 is a special year for the water, sanitation and hygiene (WASH) and "Big Water" sectors: it marks the start of the 15-year period for achieving the Sustainable Development Goals (SDGs). 2016 is also an important year for IRC, as it is the final year of our current five-year business plan.

The SDGs consist of 17 goals and 169 targets covering a wide range of sustainable development topics. Of particular importance to IRC is a specific goal on water. SDG 6 reads, **Ensure availability and sustainable management of water and sanitation for all.** Moreover, clean water and basic sanitation are closely linked to goals on food (SDG 2), health (SDG 3), climate change (SDG 13) and forests (SDG 15).

This report analyses global and regional trends for 2016–2025 that are important to IRC. Its purpose is to support IRC in developing a new strategy centred on the Sustainable Development Goals. The report seeks to anticipate and explain 11 uncertain trends in the WASH sector, the wider development world and specifically, Dutch development assistance policy.

IRC first published a trends analysis in 2006. A second trends analysis paper was prepared in 2011. Many of the trends identified in the 2011 report still apply; see Annex 1, Table A1. For the development of scenarios, however, the interesting trends to analyse are the ones that are less linear and harder to predict. This report therefore discusses 11 uncertain trends that are important for IRC's work.

The report is written from the perspective of IRC's vision of universal access to WASH services and its mission as an international think-and-do tank. It provides background for the development of IRC's strategy. Although it is primarily an internal document, we are sharing it because many of the trends we identify are relevant to other sector stakeholders. We have received feedback on the previous documents and welcome more up-to-date evidence and reports we might have missed.

Trends, 2016–2025

TREND 1. IMPROVING HUMAN DEVELOPMENT AND ECONOMIC GROWTH

TREND

When we look at human development and economic growth, a mixed picture emerges. Poverty is falling globally. Yet in sub-Saharan Africa, 41 per cent of the population still lives in extreme poverty, and the absolute number of people living in poverty has increased because population growth has outpaced poverty reduction.

Overall, human development—health, education and standard of living—is improving and income inequality between countries is falling. Inequality within countries, however, is growing, with serious rural-urban, gender and economic gaps in almost all countries and regions. Many countries have seen significant increases in gross domestic product (GDP), but this growth has not been evenly spread.

Social and economic inequalities between countries seem likely to continue falling as developing countries grow at a faster pace than developed countries. However, income inequality within countries will rise unless national policies directly address the issue. Achieving universal access to WASH services (an SDG commitment and IRC vision) and recognizing the human right to water and sanitation will entail reaching the poorest and most disadvantaged.

Facts & figures

Human development has improved in almost all countries during the past two decades.

- The Human Development Index tracks average achievement in three dimensions: health, education and standard of living (UNDP, 2014a).
- In the past two decades, every region in the world has scored higher on the Human Development Index (Figure 1). Since 1990, 2 billion people have been lifted out of the low category (UNDP, 2015b). Infant and child mortality has decreased, nutrition and primary education enrolment have improved, and poverty has been reduced in all regions (UNDP, 2014a).
- However, significant disparities between and within countries remain. Adjusted for inequality, the Human Development Index indicates that the loss in human development due to inequality is on average 22.8 per cent (UNDP, 2015b).

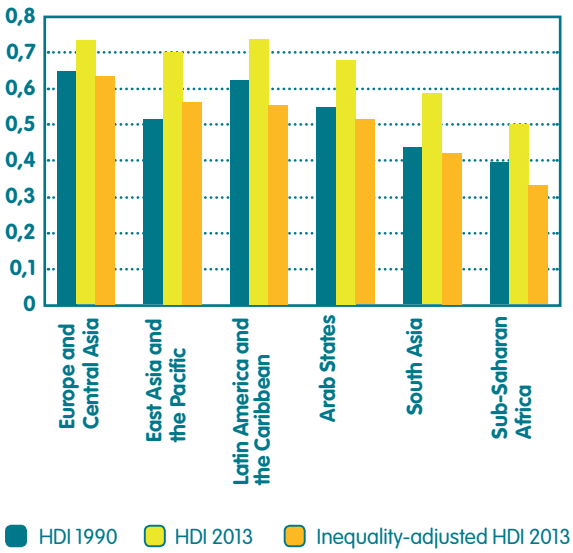


FIGURE 1 HUMAN DEVELOPMENT INDEX, 1990, 2013, AND 2013 ADJUSTED FOR INEQUALITY
Source: UNDP, 2014a

Economic growth in developing countries will outpace growth in developed regions.

- During the past decade, most developing countries have experienced tremendous economic growth, averaging 6 per cent in recent years (Figure 2) (World Bank, 2014).
- Between 2005 and 2013, gross domestic product (GDP) per capita in low-income countries[1] doubled, and middle-income countries experienced a 46.6 per cent increase (World Bank, 2015a).
- The high rates of economic growth are expected to continue to 2030, after which growth is likely to slow (EIU, 2015b).
- Sub-Saharan Africa and Asia are likely to have the greatest future growth. India will see an average annual rate of 5 per cent to 2050 (EIU, 2015b).

[1] Low-income economies are currently defined as those with a gross national income (GNI) per capita of $1,045 or less in 2014, calculated using the World Bank Atlas method. Middle-income economies have a GNI per capita between $1,046 and $12,735, and high-income economies have a GNI per capita of $12,736 or more (World Bank, 2015c). For a list of the IRC countries, see Table A2 in Annex 1.

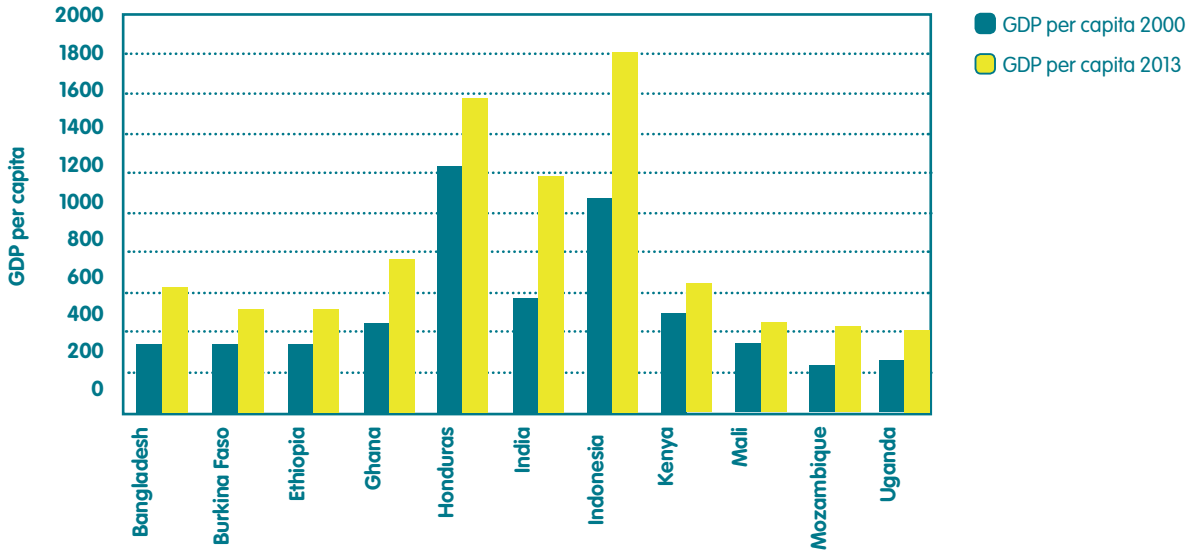


FIGURE 2 ECONOMIC GROWTH IN SELECTED COUNTRIES, 2000–2013 (IN 2005 US$)

Source: World Bank, 2015a

All regions except sub-Saharan Africa halved the proportion of people living in extreme poverty.

- Millennium Development Goal target 1.A, to halve the proportion of people whose income is less than $1.25 a day, was achieved in 2010. In absolute numbers, the number of people living in extreme poverty fell to 836 million people by late 2015, compared with 1,926 million in 1990 (UN, 2015).
- In 2015, an estimated 14 per cent of the global population lived on less than $1.25 a day (UN, 2015).
- Sub-Saharan Africa and South Asia account for about 80 per cent of the extreme poor.
- In sub-Saharan Africa, the proportion of extreme poor fell 16 percentage points between 1990 and 2015, but 41 per cent of the region's people are still living in extreme poverty (UN, 2015). Meanwhile, the absolute number of people living in poverty in the region increased because population growth outpaced poverty reduction (UN, 2014a).

Income inequality between countries has diminished but remains high.

- International income inequality, as measured by the GINI coefficient[2], declined from the early 1980s until 2010. Most of this decline was a result of the rapid growth of China (UN, 2013).
- In 2010, high-income countries, accounting for only 16 per cent of the world's population, generated an estimated 55 per cent of global income (UN, 2013).
- Low-income countries account for little more than 1 per cent of global GDP yet have almost three-quarters of the global population (UN, 2013).
- Latin American and Caribbean countries have amongst the highest income inequality, although 14 of the 20 Latin American countries have seen improvements over the past decade (UN, 2013).

Social inequality trends vary by region.

- Sub-Saharan Africa has made progress towards the Millennium Development Goals, with eight of 10 "top performers" located in the region (UNECA, AU, ADB and UNDP, 2014). But the region remains troubled with the greatest health inequality in the world, as well as high education and income inequality (UN, 2013).
- South Asia is the region with the highest education inequality and has high health inequality. This is also the region with the greatest absolute number of extremely poor people (UN, 2013).
- East Asia and the Pacific has historically been a region with more equality, but income inequality has widened in recent years. Social inequality has lessened: the region has achieved significant improvements in primary school enrolment and completion rates (UN, 2013).

[2] The GINI coefficient, calculated on the basis of per capita incomes of countries, ranges from 0, which reflects complete equality, to 1, which indicates complete inequality (one person has all the income or consumption, all others have none) (World Bank website 'Measuring Inequality').

Large inequalities persist within cities.

- Urban populations as a whole tend to have higher average incomes and better access to services and infrastructure than rural populations. Within urban areas, however, are large inequalities in income and access to services. Slum dwellers often lack adequate health, housing, and water and sanitation facilities (UN, 2013).
- Sub-Saharan Africa has three times as many extreme poor living in slums as in rural areas. Child mortality in the region's slums is higher than in rural areas, according to a study of 20 countries (UN, 2013).

Gender inequality is decreasing but remains high.

- Gender parity in primary education has been achieved by 64 per cent of low-income countries. Gender parity in secondary and tertiary education exists in 36 per cent and 4 per cent, respectively (UN, 2015).
- The average proportion of women in parliaments has nearly doubled over the past 20 years, but still only one in five representatives is a woman (UN, 2015).
- Maternal mortality declined by 45 per cent from 1990 to 2013, yet 300,000 women died from childbirth or complications during pregnancy in 2013 (UN, 2014a).
- Despite progress, there is a long way to go before achieving gender equality. Women are still less likely to be paid for their work than men, and when they are paid, they earn on average 24 per cent less than men. They also occupy fewer than a quarter of senior business positions worldwide (UNDP, 2015b).

TREND 2. RAPID GROWTH IN MIGRATION AND URBANISATION

TREND

Migration within countries and across borders is increasing. In 2015, 244 million people, or 3.3 per cent of the world's population, lived outside their country of origin. The number of forcibly displaced people is at a record high, and new approaches and resources are needed to meet their needs. Simultaneously, labour migration and the net value of remittances are growing, providing income for many households.

Urbanisation has climbed to an unprecedented level. An estimated two-thirds of the global population will be living in urban areas by 2050, posing challenges to sustainable development, especially in slums. The absolute number of slum dwellers worldwide is increasing. The boundaries between urban and rural areas are becoming more nebulous as infrastructure improves and settlements of all sizes expand.

One pressing issue, given the growing numbers of refugees and forcibly displaced people, is how to address protracted refugee situations. When host countries have limited capacity and willingness to integrate refugees into society, many refugees end up in limbo, living indefinitely in camps without sustainable infrastructure and services.

Facts & figures

The number of forcibly displaced people is at a record high.

- In 2014, forcibly displaced people numbered 59.5 million—the highest level ever recorded and 22 million more than a decade ago. All regions experienced growth in the number of newly displaced people. In 2014 alone, more than 13.9 million people were newly displaced, four times the number in 2013 (UNHCR, 2015).
- Of these forcibly displaced people, 19.5 million were refugees, 38.2 million were displaced inside their own countries, and 1.8 million were awaiting the outcome of claims for asylum (UNHCR, 2015).
- The number of refugees rose by 2.8 million people from 2013 to 2014, primarily because of conflicts in Syria, Afghanistan, Somalia and South Sudan. Half of the refugees worldwide are children under 18 (UNHCR, 2015). [3]

[3] For an overview of the classification of developing and least-developed countries, see World Bank (2016).

- The rise in refugees and displaced people is a challenge for both the source countries and their neighbours: it increases demand for jobs, land and other resources (UNHCR, 2012). Some refugee camps are becoming permanent settlements but lack sustainable services (UNGA, 2013).
- Developing countries currently host 86 per cent of refugees, a 15 percentage point increase from 1995. Least-developed countries (LDCs) host 3.6 million refugees, or 25 per cent of the global total (UNHCR, 2015).
- In 2015, Turkey became the largest host country, with 1.59 million refugees, followed by Pakistan, Lebanon, the Islamic Republic of Iran, Ethiopia and Jordan (UNHCR, 2015).

Economic migration is accelerating, both within and between countries.

- In 2015, 244 million people, or 3.3 per cent of the world's population, lived outside their country of origin. The majority of migrants are seeking better economic and social opportunities; others are fleeing crises (UNFPA, 2015).
- International economic migration has made important contributions to economic development, especially in East Asia and the Pacific. Not only does labour migration reduce labour shortages in receiving countries, but remittances are a vital part of the economy in many source countries (Ahsan et al., 2014).
- Efforts by the ASEAN Economic Community to allow free movement for skilled workers and reduce the cost of international transfers will enhance the appeal of international migration (Ahsan et al., 2014).

By 2050, two-thirds of the world's population will live in cities.

- Urbanisation is continuing in all regions and all income groups (Figures 3, 4). The urban population grew from 746 million in 1950 to 3.9 billion in 2014. In 2014, 54 per cent of the world's population resided in urban areas. This proportion is expected to increase to two-thirds by 2050 (UN, 2014c).
- Asia and Africa are expected to experience 90 per cent of the growth in the urban population.
- The increase is a result of migration from rural to urban areas as well as strong urban population growth (UN, 2014c).
- Small cities currently account for half of the world's inhabitants. In 2030, about 45 per cent of the global population will live in cities with fewer than 500,000 inhabitants (UNDESA, 2014).
- In Africa and Asia, most people still live in rural areas. A third of all countries, including Ethiopia and Uganda, will have greater rural populations in 2050 than 2014 because population growth is exceeding migration rates (UNDESA, 2014).

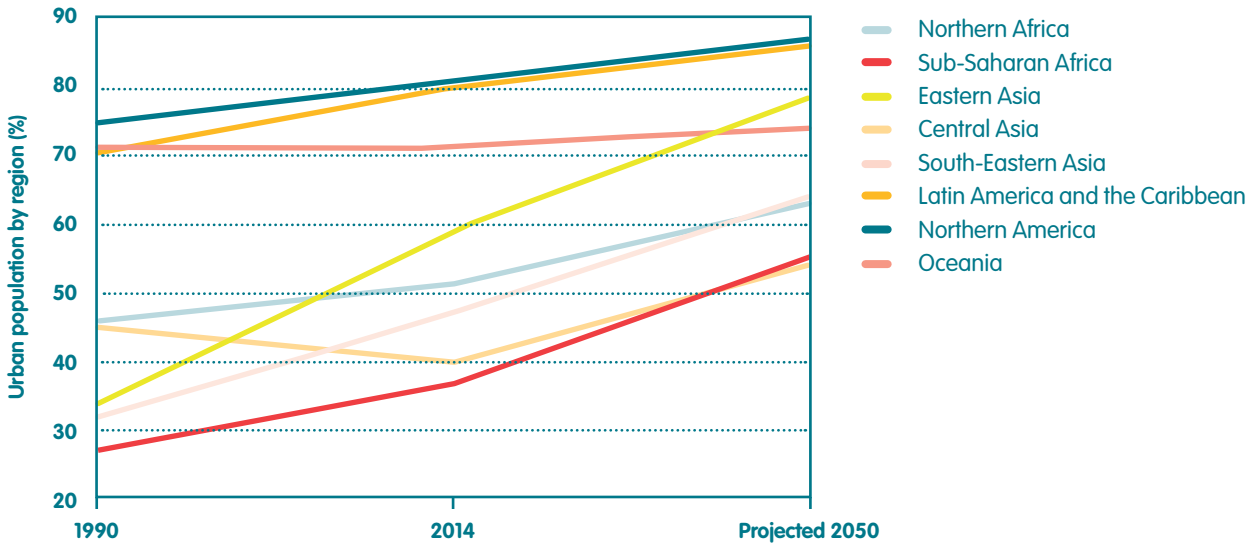


FIGURE 3 PERCENTAGE OF POPULATION RESIDING IN URBAN AREAS, 1990–2050 (PROJECTED)

Source: UN, 2014c

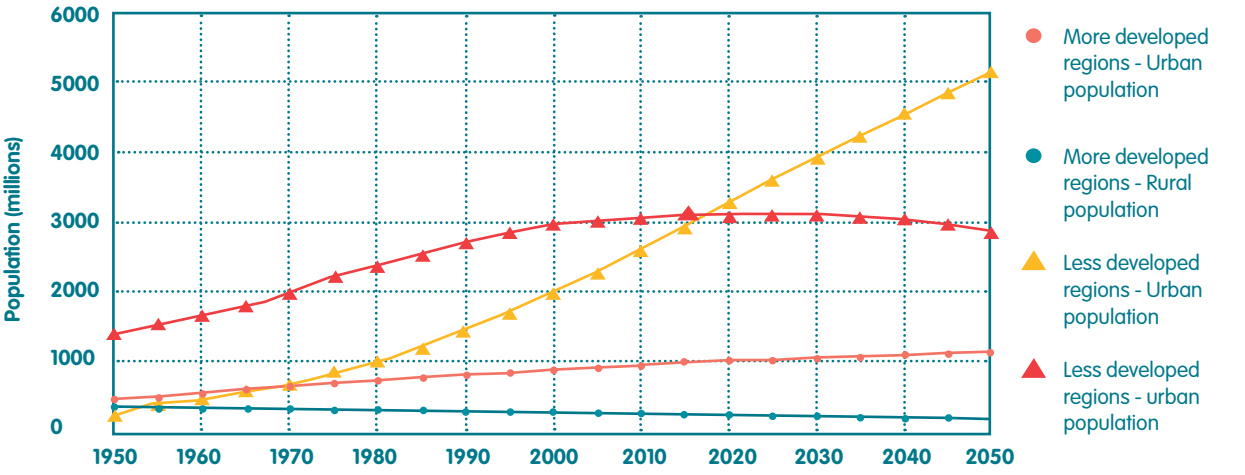


FIGURE 4 POPULATION GROWTH IN URBAN AND RURAL AREAS, 1950–2050 (PROJECTED) Source: WWAP, 2014

The absolute number of slum dwellers worldwide is increasing.

- The proportion of the urban population living in slums in low-income countries fell from per 39 cent to 30 per cent between 2000 and 2014. However, in absolute terms, the number of slum dwellers increased from 792 million in 2000 to 880 million in 2015. Causes include accelerating urbanisation, population growth and the lack of appropriate land and housing policies (UN, 2015).
- Sub-Saharan Africa continues to have the highest prevalence of slum conditions of all regions, estimated at 55 per cent in 2014 (UN, 2015).
- Slum dwellers face greater exposure to environmental hazards and increased health risks, and they are highly vulnerable to natural disasters and climate change (UN, 2015).

TREND 3. WORSENING WATER SCARCITY

TREND

Globally, freshwater scarcity is escalating because of growth in both population and demand for water in agriculture, manufacturing and energy generation. Climate change is causing more extreme weather events, particularly droughts and floods. Without good governance and integration of competing uses, many areas will face severe water shortages by 2050. Some researchers, however, believe that water scarcity can be reduced in the coming 35 years.

Water scarcity is addressed in SDG target 6.4, which aims to "substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity" and to "substantially reduce the number of people suffering from water scarcity" by 2030.

Adequate water is essential for achieving the SDGs for water, health, livelihoods and food security. Countries that lack good infrastructure and the means to mitigate water scarcity will incur social, environmental and economic costs.

Facts & figures

By 2050, 40 per cent of the global population is expected to live in areas facing severe water stress.

- Water stress occurs when demand for water exceeds the available supply or when poor quality restricts the use of the water (EEA, 2015). Sub-Saharan Africa, South Asia and Central Asia are facing the greatest discrepancies between demand and supply (WWAP, 2014).

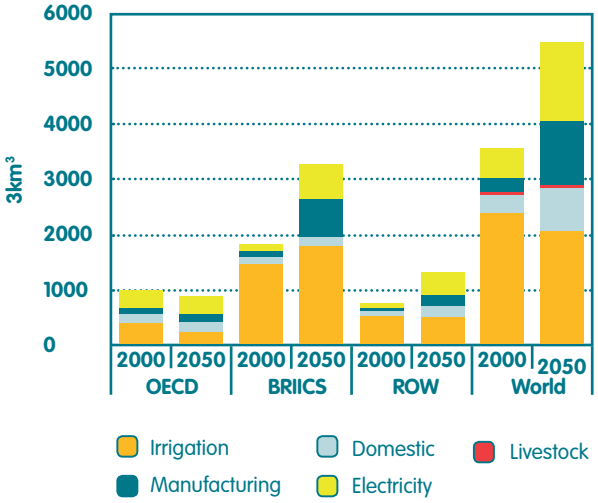
- Sub-Saharan Africa has poor utilisation of water resources. Water scarcity is common: only 5 per cent of agricultural land is irrigated. Additionally, poor infrastructure and weak governance contribute to water scarcity, particularly in cities. Climate variability and change will only increase drought and flood frequencies (WWAP, 2015).
- Groundwater resources are being depleted globally as abstraction rates increase by 1 to 2 per cent annually. Already, 20 per cent of the world's aquifers are over-exploited. India, China, Nepal, Bangladesh and Pakistan account for nearly half of global groundwater abstraction (WWAP, 2015).

By 2050, global water demand is projected to increase by 55 per cent.

- This growing demand comes mainly from manufacturing, thermal electricity generation and domestic use (Figure 6) (WWAP, 2015).
- Water demand for manufacturing is estimated to rise by 400 per cent from 2000 to 2050. This exacerbates the existing issues of over-abstraction and water pollution (WWAP, 2015).
- Energy production is responsible for 15 per cent of freshwater withdrawals, a number expected to increase by 20 per cent by 2030. Rising energy demand worldwide will exacerbate stress on freshwater resources (WWAP, 2015).
- Domestic water use in low-income countries averages 8 per cent of total freshwater removal (UNEP, 2007). A rapidly growing middle class and increasing consumption rates will further strain water resources.
- Water extraction for agriculture and irrigation is rising to meet growing populations' demand for food. Currently, agriculture accounts for 70 per cent of global water withdrawals and up to 90 per cent in LDCs (WWAP, 2014). It is expected that by 2050, agricultural production must increase by 60 per cent globally to meet expanding demand (WWAP, 2015).

Climate change is amplifying consequences of over-abstraction and land-use change.

- Rainfall will be more variable, causing higher frequencies of extreme events such as floods and droughts. Wet areas are getting wetter and dry areas drier (IPCC, 2014). These developments will impose high social, environmental and economic costs, particularly in low-income countries that lack the physical and social infrastructure to mitigate the effects (WWAP, 2015).



OECD countries = Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States
BRIICS countries = Brazil, Russia, India, Indonesia, China, South Africa
ROW = rest of the world

FIGURE 5 PROJECTED GLOBAL WATER DEMAND, 2000 AND 2050

Source: WWAP, 2015

- Global warming is rapidly shrinking glaciers worldwide, threatening water security in areas that rely on meltwater as a freshwater source (WWAP, 2015).
- The increase in the magnitude and frequency of floods contributes to contamination of waters as sediments and effluents are flushed into waterways (WWAP, 2015).

TREND 4. COMPLEX GOVERNANCE TRENDS

TREND

Democracy appears to be declining globally, and the number of countries classified as free is at a standstill.

Corruption is falling in most countries where IRC works yet remains entrenched in most low-income countries. Government accountability correlates with access to clean drinking water. Reducing corruption leads to more efficient delivery and increases the likelihood that aid and development support will reach those who need it most. It is therefore in the interest of the WASH sector to champion efforts to reduce corruption and thereby improve both aid efficiency and WASH coverage.

One ongoing governance trend is decentralisation: accountability for water, sanitation and hygiene services is increasingly decentralised but often without commensurate financial decentralisation.

Facts & figures

Democracy has declined and the number of free countries has stagnated since 2004.

- The Democracy Index scores nations from 0 (no democracy) to 10 (full democracy) based on electoral process, pluralism, civil liberties, the functioning of government, political participation and political culture. Despite overall declines in the Democracy Index from 2013 to 2014, most of the countries where IRC works have seen improvements (Table 1) (EIU, 2015a).
- In 2014, civil liberties and political rights decreased in all regions except Asia-Pacific. Over the past five years, many of the largest gains and losses in civil liberties and political rights—as measured by Freedom House (2015)—have been in Africa, with Burkina Faso and Uganda amongst the countries facing the greatest losses.
- Since 2004, of the 89 nations covered in the Freedom House (2015) report, the number labelled "not free" has stagnated at 51. Uganda fell from "partly free" to "not free" in 2014.

TABLE 1 DEMOCRACY INDEX FOR SELECTED COUNTRIES, 2006 AND 2014

	2006	2008	2010	2012	2014	Rank, 2014	Type of regime, 2014
The Netherlands	9.66	9.53	8.99	8.99	8.92	10	Full democracy
United Kingdom	8.08	8.15	8.16	8.21	8.31	16	Full democracy
United States	8.22	8.22	8.18	8.11	8.11	19	Full democracy
India	7.68	7.8	7.28	7.52	7.62	27	Flawed democracy
Indonesia	6.41	6.34	6.53	6.76	6.95	49	Flawed democracy
Ghana	5.35	5.35	6.02	6.02	6.33	68	Flawed democracy
Singapore	5.89	5.89	5.89	5.88	6.03	75	Flawed democracy
Honduras	6.25	6.18	5.76	5.84	5.84	80	Hybrid regime
Mali	5.99	5.87	6.01	5.12	5.79	83	Hybrid regime
Bangladesh	6.11	5.52	5.87	5.86	5.78	85	Hybrid regime
Uganda	5.14	5.03	5.05	5.16	5.22	96	Hybrid regime
Kenya	5.08	4.79	4.71	4.71	5.13	97	Hybrid regime
Mozambique	5.28	5.49	4.9	4.88	4.66	107	Hybrid regime
Burkina Faso	3.72	3.6	3.59	3.52	4.09	114	Hybrid regime
Ethiopia	4.72	4.52	3.68	3.72	3.72	124	Authoritarian

Source: EIU, 2015a

It is difficult to predict developments in democracy in fragile and unstable countries.

- Fragile countries—those with weak state capacity or legitimacy—leave citizens vulnerable to internal and external shocks and domestic and international conflict.
- Amongst countries where IRC works, the Fund for Peace's Fragile State Index ranks Kenya, Ethiopia, Mali and Bangladesh as fragile (Fund for Peace, 2015).
- It appears that the "Arab Spring" did not pave the way for democratisation: most Arab countries have reverted to authoritarian regimes or suffered violent conflict and instability. One notable exception is Tunisia, which in 2014 was labelled a democracy, albeit flawed (Freedom House, 2015).

A trend towards decentralisation continues, but in the WASH sector, a gap remains between functional and financial decentralisation.

- IRC believes that sub-national government bodies and institutions are responsible for delivering public services and constitute critical "avenues" for public participation in governance and decision-making processes.
- IRC has observed a trend towards functional decentralisation, but it is not being accompanied by financial decentralisation. Data on sub-national spending are limited, and only 10 countries in the 2014 Global Annual Assessment on Sanitation and Drinking Water (GLAAS) survey could provide some data on expenditures for sub-national government (WHO and UN-Water, 2014). Thus it is difficult to discern the situation.
- A five-year-old review of the water sector in Africa by the World Bank (2011) found little evidence of financial decentralisation from 2000 to 2008, even though most countries had adopted a legal framework for decentralisation.

Corruption is perceived as major obstacle to achieve the SDGs.

- The Corruption Perceptions Index measures perceived levels of public sector corruption on a scale of 0 (highly corrupt) to 100 (very clean). The index is based on expert opinions. According to this index, 68 per cent of countries worldwide have a serious corruption problem (Transparency International, 2015).
- Since 2010, all the countries where IRC works have improved their scores (Figure 7).
- Transparency International finds that increased transparency, accountability and integrity are strongly correlated with progress towards the MDG targets for education, health and water (Transparency International, 2010b). Further examples of how they are also relevant for the achievements of the SDGs have been confirmed by other agencies (UNDP, 2014b; WIN, 2016).

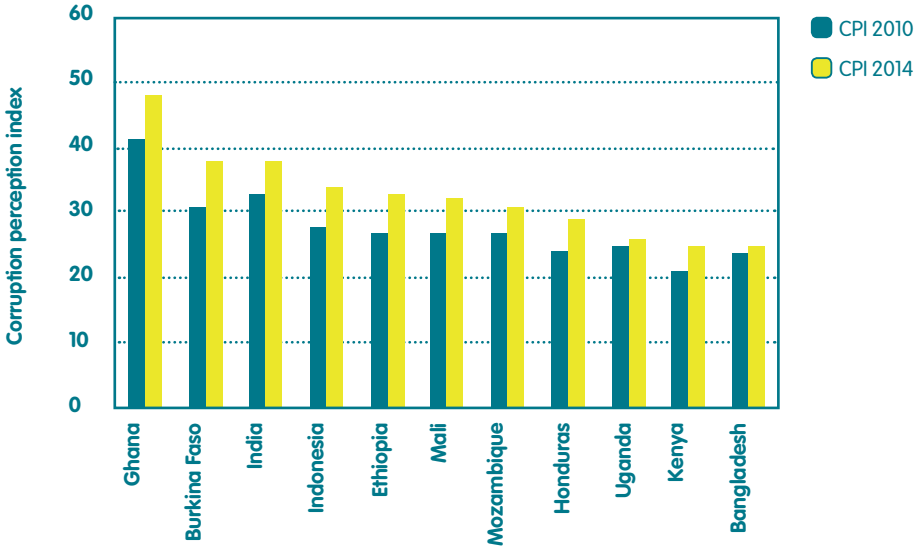


FIGURE 6 CORRUPTION PERCEPTION INDEX IN SELECTED COUNTRIES, 2010 AND 2014 Source: Transparency International, 2010a, 2014

TREND 5. A CHANGING GLOBAL AID LANDSCAPE

TREND

Official development assistance (ODA) as a share of gross national income (GNI) is falling in most low- and middle-income countries because of economic growth, reductions in received ODA, or both. At the same time, the net annual volume of ODA reached a record high, US$135 billion, in 2013 and 2014.

Although ODA to middle-income countries is rising, aid to low-income and fragile countries is slowing. Overall, multilateral ODA is rising, but bilateral aid still equals roughly two-thirds of total ODA flows. Assistance continues to focus on infrastructure rather than governance and capacity building.

Despite global agreements on improving aid effectiveness, such as the Monterrey and Paris declarations, little progress is seen. It appears that donor countries are increasingly using ODA as a tool to pursue their own financial and political interests, with historical and strategic interests influencing aid allocation. For instance, Mozambique is a priority country for 16 donors, but another 10 least-developed countries are priorities for only one donor each. Gambia and Eritrea have no priority partnerships. Donor darlings and orphans remain prevalent.

Facts & figures

ODA to lower-income countries slows while assistance to middle-income countries stabilises.

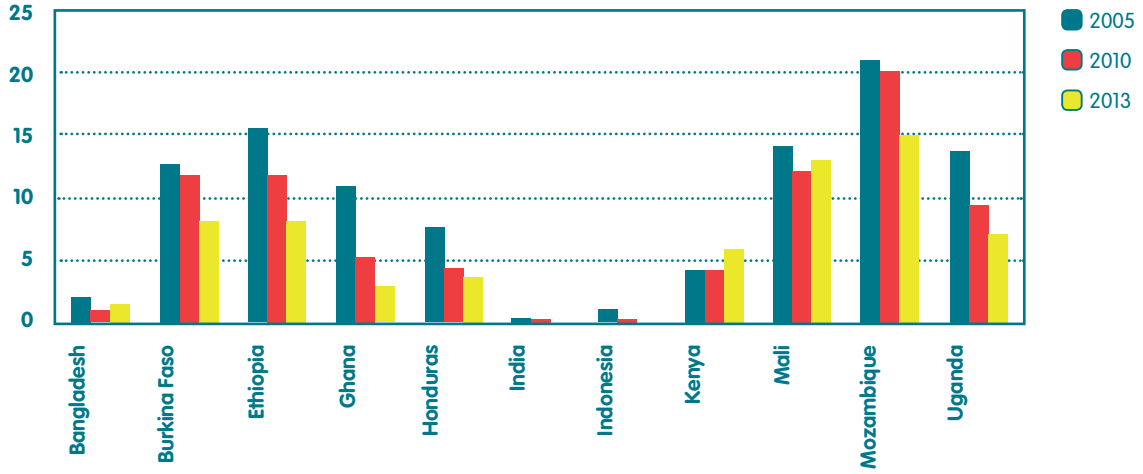
- In 2013, the net volume of ODA [4] reached a record high, with US$135 billion going to developing countries in the form of concessional loans and grants (OECD, 2014b). In 2014, the flows stabilised around US$135 billion (OECD, 2015a).
- The growth in ODA to low-income and fragile countries is slowing. Bilateral ODA to LDCs has not changed since 2010 (OECD, 2014c). In these countries, poor governance and revenue collection produce few public funds for development. Of 45 vulnerable countries identified by Wateraid (2015), half raise very low levels of government revenue per capita—less than US$400 per capita (excluding grants and loans).
- Although ODA to low-income countries is decreasing, aid to middle-income countries is expected to increase or remain relatively stable until 2017 (OECD, 2014b).
- The Addis Action Agenda's target for ODA to LDCs of 0.15–0.20 per cent of GNI is promising, but no timeframe for reaching the target was set (UNGA, 2015).
- ODA as a share of GNI is falling in most low- and middle-income countries. This includes all countries where IRC works except Bangladesh (Figure 8; Table 2). This trend is driven by economic growth in some countries (e.g., Mozambique) and net reduction in ODA in others (e.g., Ghana, Uganda and Indonesia) (OECD, 2014c; Wateraid, 2015).
- The BRICS countries are increasingly providing development assistance to low-income countries. Between 2005 and 2010, Brazil's international development co-operation grew from US$160 million to US$923 million. Most of these funds are channelled into large-scale infrastructure (OECD, 2014c).

TABLE 2 ODA PER PERSON IN COUNTRIES WHERE IRC WORKS, 2014

Country	ODA per person (2014 US$)
Mali	91
Mozambique	90
Honduras	78
Kenya	73
Burkina Faso	61
Ghana	51
Uganda	45
Ethiopia	41
Bangladesh	17
India	2
Indonesia	0

Source: World Bank, 2015a

[4] ODA from the 29 OECD members of the Development Assistance Committee.



* ODA from the 29 OECD members of the Development Assistance Committee.

FIGURE 7 ODA* ALLOCATIONS TO SELECTED COUNTRIES, AS PERCENTAGE OF GNI

Source: World Bank, 2015b

Multilateral ODA is rising, but bilateral aid still equals roughly two-thirds of the total.

- In 2013, resources to multilateral organisations reached an all-time high after two years of decline. Development Assistance Committee member countries in 2013 channelled US$59 billion, or approximately 41 per cent of their total gross ODA, to and through multilateral organisations (OECD, 2015b).
- Of total outflows from multilateral organisations, 45 per cent went to LDCs, much higher than the average 10 per cent for bilateral aid. Sub-Saharan Africa received 38 per cent of earmarked funding (OECD, 2015b).
- Bilateral aid to LDCs was US$25 billion in 2014, a decrease of 16 per cent in real terms compared with 2013. This was largely the result of lower levels of debt relief. Excluding debt relief grants, aid to LDCs fell by 8 per cent (OECD, 2015a).

Country-programmable aid, a proxy for aid recorded at the country level, to LDCs is decreasing.

- "Country-programmable aid" is an alternative measurement of development assistance. It consists of funds about which the recipient has a say and which are disbursed directly to the recipient country; it excludes debt relief and humanitarian aid.
- Middle-income Asian countries such as India, Jordan and Pakistan experienced a 10 per cent increase in country-programmable aid in 2013, and this trend will continue to 2017 (OECD, 2014b).
- Country-programmable aid to Africa—the region with the most LDCs—is projected to decline (UN, 2014a; Figure 9). Sub-Saharan Africa will be particularly hard hit, with a projected net decline of US$1,629 million between 2015 and 2017. Still, the African continent is likely to remain the largest receiver of country-programmable aid over the medium term. In several LDCs this aid exceeds tax revenues (OECD, 2014b).

Aid effectiveness and harmonisation have stalled.

- Debate about how to spend aid effectively continues. The three most prevalent approaches are (1) emphasising global public goods, such as climate change; (2) targeting poverty in LDCs; and (3) mobilising additional resources for development (German Development Institute, 2015).
- Although hard evidence is scarce, our perception is that aid effectiveness is at best on hold. Some traditional supporters of aid effectiveness (e.g., the Netherlands, United Kingdom and Australia) have explicitly embraced an "aid and trade" agenda with bilateral objectives (e.g., Ministry of Foreign Affairs, 2014).
- Bilateral donors appear to be increasingly prioritising countries and sectors for political and historical reasons, preventing effective use of development funds (WaterAid, 2015).
- Global agreements on aid effectiveness, such as the Monterrey and Paris declarations, have produced few results in practice.

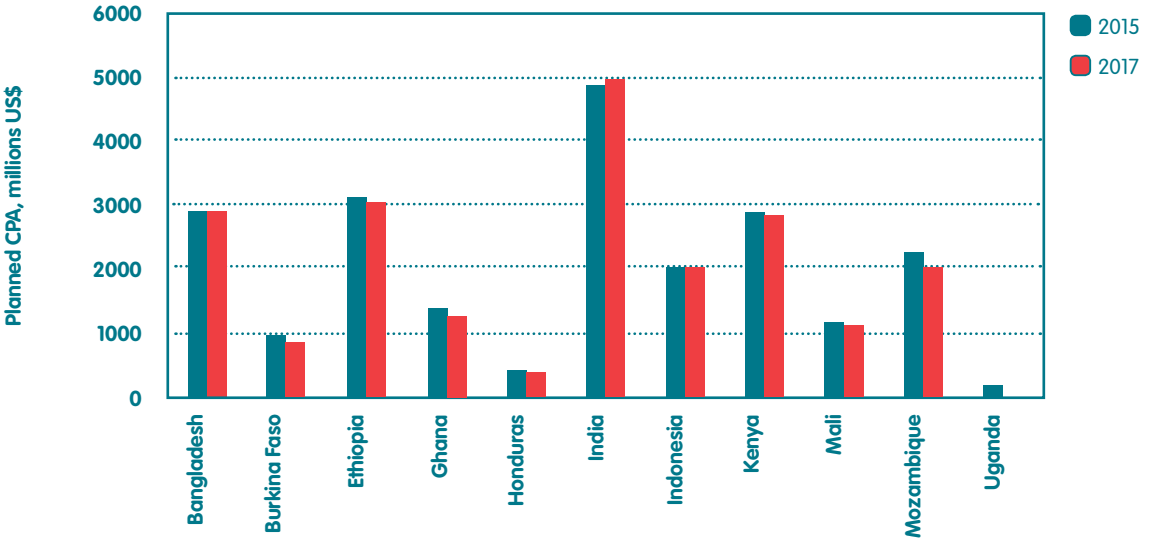


FIGURE 8 CHANGE IN PLANNED COUNTRY-PROGRAMMABLE AID, 2015–2017 (IN MILLION 2014 US$) Source: OECD, 2014b

TREND 6. THE RISE OF DOMESTIC RESOURCE MOBILISATION FOR DEVELOPMENT

TREND

Although tax revenue collection in low-income countries is improving, tax revenues as a proportion of GDP remain relatively low. Domestic resource mobilisation, particularly taxation, is increasingly perceived as a significant source of funding for development. Strengthening the capacity of governments to raise domestic revenue can reduce reliance on foreign aid and enable long-term financial planning and self-reliance.

South-South cooperation, foreign direct investment and remittances to low-income countries are all increasing. It is unclear, however, to what extent these funds are spent on development. With increasing rates of foreign direct investment (FDI[5]) in low-income countries, strengthening taxation and reducing tax evasion can provide much-needed revenue for development. International initiatives such as Tax Inspectors Without Borders and the Addis Tax Initiative have been launched to reduce tax evasion and illicit flows.

How and when the domestic resource mobilisation discourse may affect the water sector is considered under Trend 9.

Facts & figures

Tax revenues as a proportion of GDP in developing countries remain relatively low.

- Despite strong improvements in tax collection in developing countries, domestic resource mobilisation remains low, and data on tax revenue are scarce (AfDB, OECD and UNDP, 2015c; CSIS, 2014).
- Tax revenue as proportion of GDP remains relatively low (Figure 10). In 2012, the average percentages were 13.8 per cent in sub-Saharan Africa and 10.7 per cent in South Asia. With many countries not reporting tax revenues at all, it is likely that the actual numbers are even lower. For comparison, in the European Union, tax revenue as a proportion of GDP was 18.8 per cent (World Bank, 2015a).
- In developing countries, the size of the informal sector is a barrier to growing the tax base, alongside proliferation of tax exemptions, corruption and cumbersome tax institutions (NSI, 2013; CSIS, 2014).
- In the countries where IRC works, the picture is mixed, with increased tax revenue to central governments in some countries (e.g., Bangladesh and Burkina Faso) and decreasing or fluctuating figures in others (e.g., Kenya and Ghana) (Table 3).

[5] A foreign direct investment is an investment made by a company or entity in one country into a company or entity in another country.

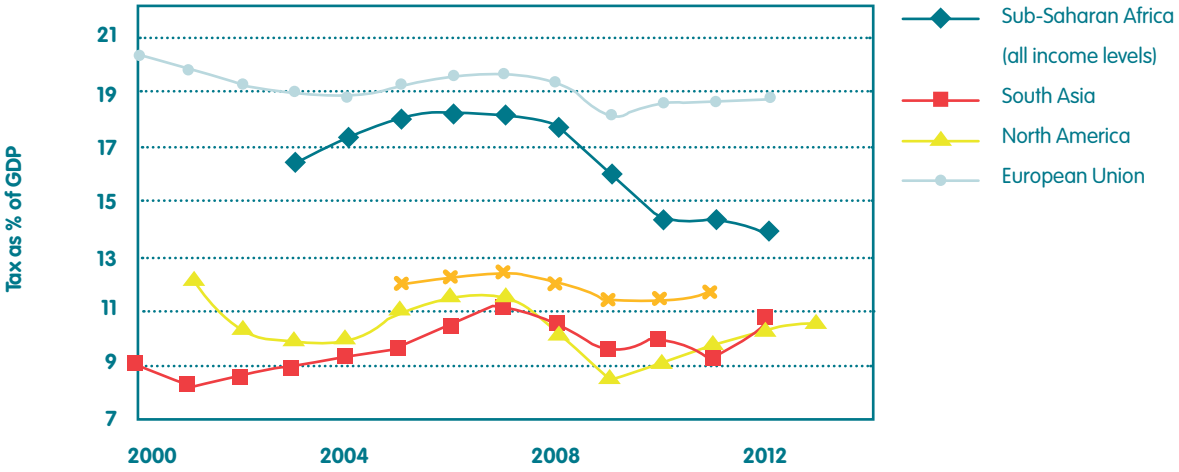


FIGURE 9 TAX REVENUE AS PERCENTAGE OF GDP, BY REGION, 2000–2013

Source: World Bank, 2015a

TABLE 3 TAX REVENUE AS PERCENTAGE OF GDP IN COUNTRIES WHERE IRC WORKS, 2004–2012

	World Bank			Heritage Foundation
	2004	2008	2012	2014–2015
Bangladesh	7.0	7.7	8.7*	9.0
Burkina Faso	12.7	11.9	15.6	14.5
Ethiopia	9.7	7.8	9.2*	12.4
Ghana	21.8	13.9	14.9*	16.1
Honduras	14.5	16.1	14.7	18.1
India	9.4	10.8	10.8	16.7
Indonesia	12.3	13.0	—	11.8
Kenya	17.0	16.0	15.9	16.2
Mali	15.0	13.3	15.6	12.2
Mozambique	—	—	20.8	22.9
Netherlands	20.3	21.3	19.6	37.4
Uganda	10.7	12.9	11.0	13.4

*Data from 2011

Source: World Bank, 2015a; Heritage Foundation, 2016

BOX 1 TAX REVENUE DATA EXPLAINED

Variation in tax revenue estimates

Estimates of tax revenue in individual countries and regions vary depending on measurement practices.

The World Bank uses data reported by the countries themselves and counts tax revenue to the central government only. The OECD, in contrast, measures all tax revenue plus compulsory payments, such as social security payments and fines. Thus, whereas the World Bank puts tax revenue for 2012 in the United States at 10.6 per cent of GDP, OECD measures it at 24.1 per cent—a 13.5 percentage point difference (OECD, 2015c, World Bank 2015b).

The Heritage Foundation (2016) estimates are based on various sources, including OECD data, Eurostat, government agencies and multinational organisations.

Reducing aggressive tax evasion and illicit flows will increase domestic revenue bases in developing countries.

- UNCTAD (2015) estimates that developing countries lose US$100 billion annually to tax avoidance by multinational enterprises alone.
- At the 2015 Financing for Development Conference in Addis Ababa, OECD and UNDP launched the Tax Inspectors Without Borders initiative to provide tax audit support to developing countries (UNDP, 2015c).

- Similarly, the Netherlands along with the European Union and other partners have launched the Addis Tax Initiative, which supports capacity building in tax accounting (WWAP, 2015).
- Meanwhile, the lack of an international tax facility means developing countries remain disadvantaged in influencing global tax policy (GPF, 2015).

Remittances are increasing, but it is unclear to what extent they are financing development.

- Remittances—funds an expatriate sends to his or her country of origin, often to support relatives—are becoming an increasingly important financial flow. Remittances to developing countries are estimated to have reached US$436 billion in 2014 and are expected to grow to US$440 billion in 2015 (World Bank, 2015c). Most transfers go to middle-income countries.
- Remittances undoubtedly form an important source of income for poor households and can contribute to reducing income poverty. The extent to which remittances contribute to investment and development, however, remains contested (Schmidt-Traub and Sachs, 2015).

Foreign direct investment is rising as firms in fast-growing economies seek new opportunities.

- Global FDI inflows declined in 2014, but flows to developing countries grew by 2 per cent to US$681 billion, the highest level yet, and are expected to increase further.
- The value of total FDI to LDCs is still less than 50 per cent of the value of total ODA (Figure 11) (UNCTAD, 2015).
- Developing countries are also taking to the stage as investors, and Asia invests more than any other region. Nine of the top 20 investors are developing or transitioning countries (UNCTAD, 2015).
- The BRICS alone have increased FDI outflows from US$7 billion in 2000 to US$126 billion in 2012. Of this FDI, 58 per cent went to developing countries. In 2014, the New Development Bank was launched by the BRICS countries, with initial capital amounting to US$50 billion (OECD, 2014c).

TREND 7. EXPANSION OF INFORMATION AND COMMUNICATIONS TECHNOLOGY

TREND

Information and communications technology (ICT) is expanding quickly in all regions, but low-income countries still have remarkably low rates of access to the Internet. Internet access is increasingly based on 3G networks instead of fixed broadband. The cost of using the Internet is decreasing rapidly, though access remains disproportionally cheaper in high-income countries.

Mobile ICT, such as text messages and automated calls, can be used to report malfunctions and improve water and sanitation service levels. Similarly, smart-pumps and smart-toilets can automate support for operation and maintenance, using the Internet of things.

Further innovation and exploration are likely to occur as computer hardware and software become cheaper and more available. However, even though the expansion of ICT is promising, human infrastructure and good governance are required to use these resources to improve service levels.

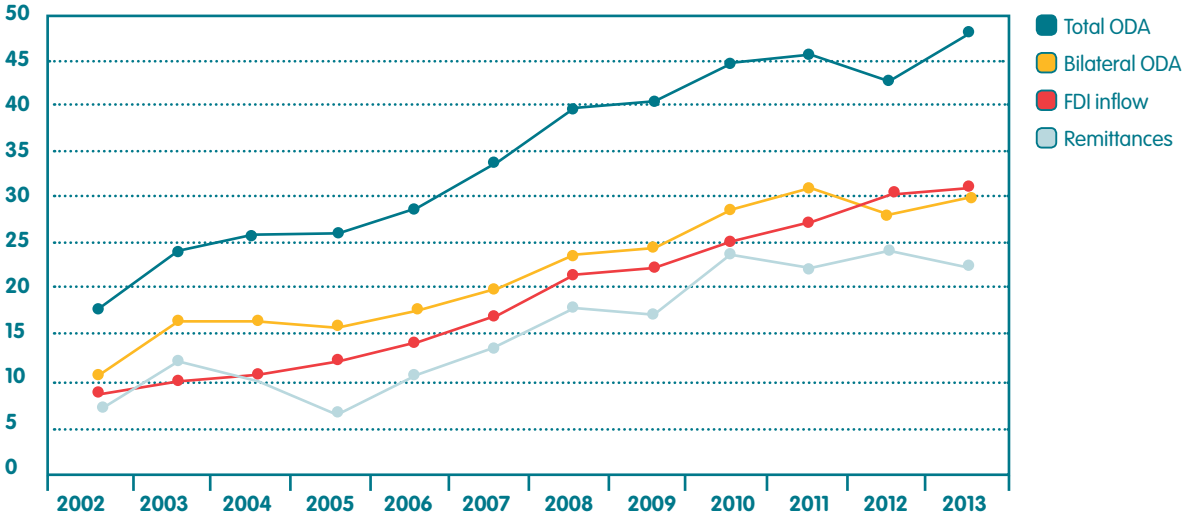


FIGURE 10 FDI INFLOWS, ODA FLOWS AND REMITTANCES TO LDCS, 2002–2013 (IN BILLION US$)

Source: UNCTAD, 2015

Facts & figures

Mobile coverage and Internet connection are increasing, but disparities between developed and developing countries remain high.

- By the end of 2014, 3 billion people were using the Internet, 300 million more than in 2013. Developing countries account for 90 per cent of the people without access (ITU, 2014).
- From 2010 to 2014, Internet access in Africa doubled, from 10 to 20 per cent (UN, 2014a).
- The least-connected countries are typically found in sub-Saharan Africa and South Asia (Figure 12) (ITU, 2014). Many countries where IRC works are in this category, though all increased their ICT Development Index scores from 2012 to 2013 (Table 4).
- Access to mobile broadband services is growing fast in developing countries, with annual growth rates of 37 per cent as smartphones and data plans become more affordable (ITU, 2014).
- Prices for fixed and mobile broadband are decreasing quickly, but mobile broadband remained six times more affordable in developed countries than in developing countries (ITU, 2014).

Internet access and use of ICT are likely to expand further.

- Investment in ICT in developing countries was at an all-time high in 2012, with almost 40 per cent of global telecommunications investments occurring in these countries (ITU, 2014).
- More countries are creating an enabling environment through regulation and by encouraging competition; prices of handsets, energy and data plans are falling (ITU, 2014).
- New services and content make these resources increasingly attractive, driving demand (UN, 2014a).

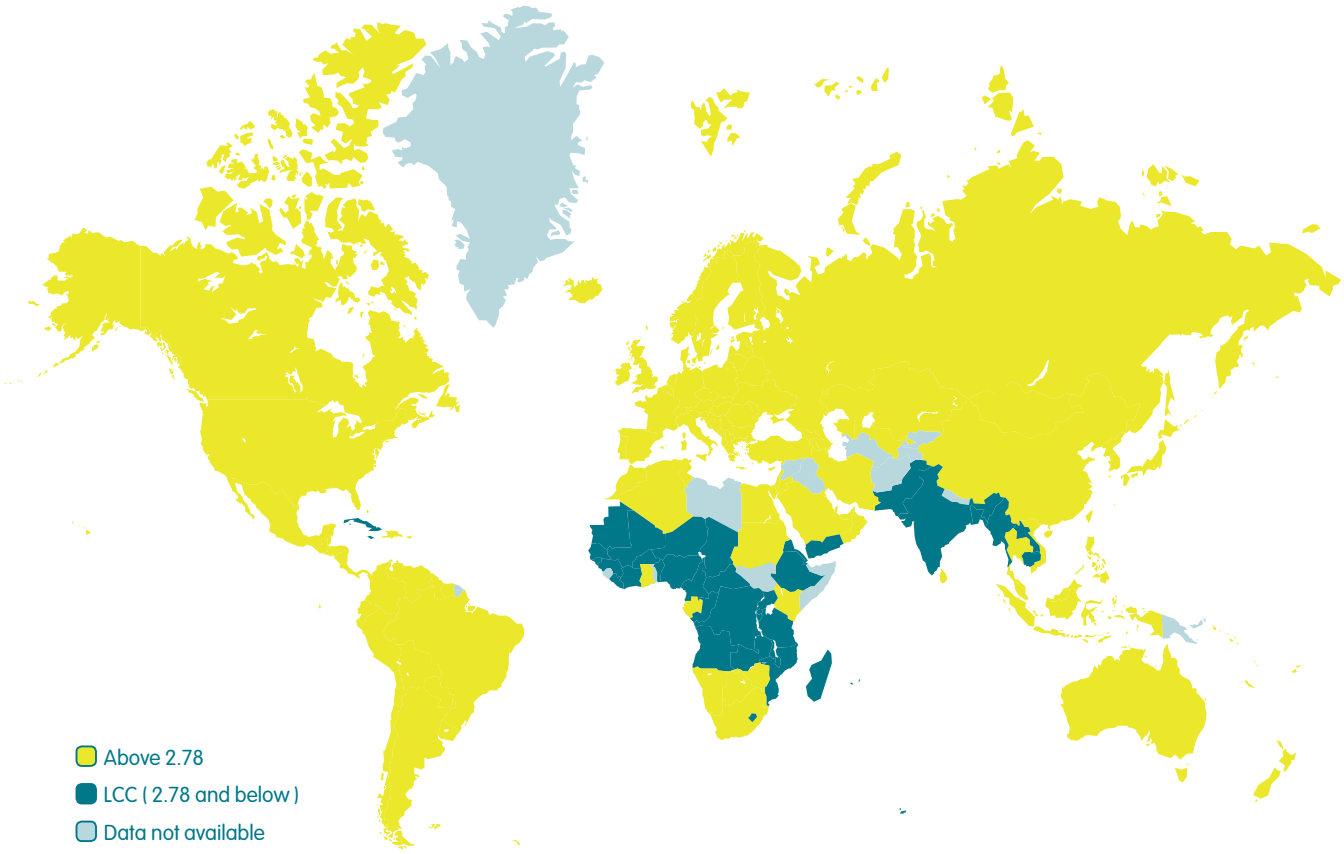


FIGURE 11 LEAST-CONNECTED COUNTRIES

Source: ITU, 2014

TABLE 4 ICT DEVELOPMENT INDEX IN SELECTED COUNTRIES, 2013

	Score	Rank
World	4.77	—
Developed countries	7.30	—
Developing countries	3.84	—
Denmark	8.86	1
The Netherlands	8.38	7
United States	8.02	14
China	4.64	86
Indonesia	3.83	106
Ghana	3.46	113
Honduras	3.18	119
India	2.53	129
Bangladesh	1.97	145
Uganda	1.94	146
Burkina Faso	1.56	156
Mozambique	1.52	159
Ethiopia	1.31	162

Source: ITU, 2014.

Disparities in access to ICT in urban and rural areas are significant.

- ICT expansion in rural areas is slower than in urban areas (ITU, 2014).
- The concentration of resources associated with urbanisation influences Internet access and ICT performance, resulting in large rural-urban disparities (ITU, 2014).
- People living in rural areas would likely benefit the most from ICT and Internet access, but they lack the necessary infrastructure, knowledge and equipment (ITU, 2014).

Mobile financial services are experiencing tremendous growth.

- More than 300 million mobile money accounts were active in 2014 (GSMA, 2014).
- International remittances are increasingly transferred through mobile banking, reducing the cost of international transfers (GSMA, 2014).

ICT is increasingly important for governance and the provision of WASH services.

- ICT and cloud computing enable the collection, transfer and analysis of data on WASH services.
- Stakeholders in low-income countries are taking advantage of growing mobile penetration and access to the Internet to improve service delivery and efficiency (Williams, 2016; Smits and Lockwood, 2015).
- Mobile apps such as WaterAid's Water Point Mapper and real-time mWater allow public crowd sourcing of information on water points and their properties (Williams, 2016; Smits and Lockwood, 2015).
- Automated mobile technology is being applied to monitor service levels, as seen in projects by WellDone's MoMo (Williams, 2016; Smits and Lockwood, 2015).
- The same technology that enables mobile banking is used in the WASH sector to enable simple, transparent and reliable payments of water credits, WASH services and maintenance (Hope et al., 2011).

TREND 8. PERSISTENT GAPS IN WASH SERVICES DESPITE BETTER ACCESS OVERALL

TREND

Most regions met the MDG target for access to improving drinking water sources by 2015. Sanitation lags, however, with 2.5 billion people lacking access to improved sanitation and 1 billion still practising open defecation. Large inequalities remain between regions and within countries, especially between urban and rural areas.

As a group, the least-developed countries did not meet the MDG targets for improved drinking water and sanitation. As a result, the unserved are increasingly concentrated in a few regions and countries. The inequalities need to be addressed to ensure universal access by 2030 (see Trend 9).

Facts & figures

More effort is needed to achieve universal access to safe water and sanitation by 2030.

- Universal access for drinking water and sanitation is the goal of SDG targets 6.1 and 6.2:
  - By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
  - By 2030, achieve 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.

- At current rates of change, it is unlikely that universal access to sanitation will be achieved by 2030, especially in South Asia and sub-Saharan Africa (WASHwatch 2015; Table 5).
- In most of the countries where IRC works, the current rates of expansion of improved sanitation are too low to ensure universal access by 2030 (Table 6). Only Honduras is projected to achieve the goals.
- The prospects for improved drinking water service are better, with half of the countries projected to achieve universal access by 2030.

The MDG target—to halve the proportion of the population without sustainable access to safe drinking water—has been met.

- From 1990 to 2010, the proportion of people lacking access to an improved source of water was reduced by half: the target was reached five years early.
- Good progress has been made in expanding access to improved drinking water sources in all regions except Caucasus and Central Asia. Globally, 147 countries met the MDG target for drinking water by 2015 (WHO and UNICEF, 2015).
- Still, **663 million people** remain without access to an improved drinking water source, and more than 40 per cent of them reside in sub-Saharan Africa (WHO and UNICEF, 2015).

Sanitation coverage rates lag behind those of water, especially in sub-Saharan Africa.

- **2.1 billion people** have gained access to an improved sanitation facility since 1990. Sanitation coverage has increased in most regions, and 57 per cent of people in developing countries now use improved sanitation (WHO and UNICEF, 2015).
- Yet the global MDG target—halving the proportion of the population without basic sanitation—was missed, by almost **700 million people.** Currently, 946 million people practice open defecation, and 2.4 billion people do not have access to improved sanitation (WHO and UNICEF, 2015).
- Because rapid population growth is outpacing efforts to expand service coverage, **sub-Saharan Africa** has seen only a 5 percentage point increase in access to improved sanitation. As a result, the total number of people using unimproved sanitation has increased in the region, especially in urban areas (WHO and UNICEF, 2014).

TABLE 5 WATER AND SANITATION COVERAGE IN SELECTED COUNTRIES, 2012

	Percentage of population with improved water service			Percentage of population with improved sanitation service		
	Urban	Rural	Total	Urban	Rural	Total
Bangladesh	86	71	80	55	58	57
Burkina Faso	97	76	82	50	7	19
Ethiopia	97	42	52	27	23	24
Ghana	93	81	87	20	8	14
Honduras	97	82	90	85	74	80
India	97	91	93	60	25	36
Indonesia	93	76	85	71	46	59
Kenya	81	56	63	31	30	30
Mali	96	64	77	38	16	25
Mozambique	80	35	49	44	11	21
Uganda	95	71	75	33	34	34

Progress insufficient to achieve universal access by 2030 at current rates

On track to reach the target of universal access by 2030 at current rates

Source: Authors' elaboration, based on WASHwatch, 2015

TABLE 6 PROJECTIONS FOR UNIVERSAL ACCESS TO WASH SERVICES BY 2030 IN COUNTRIES WHERE IRC WORKS

	Improved drinking water sources			Improved sanitation facilities		
	Current rate of increase in access (million people/year)	Population with access in 2030 at current rate (percentage)	Required rate of increase in access to achieve goal (million people/year)	Current rate of increase in access (million people/year)	Population with access in 2030 at current rate (percentage)	Required rate of increase in access to achieve goal (million people/year)
Bangladesh	2.8	98.4	3.0	3.0	77.2	5.8
Burkina Faso	0.8	100.0	0,8	0.2	27.2	1.5
Ethiopia	3.9	83.4	5.4	2.1	43.0	7.3
Ghana	0.8	100.0	0.8	0.2	19.8	2.1
Honduras	0.2	100.0	0.2	0.3	100.0	0.3
India	18.0	100.0	18.0	19.0	53.8	64.0
Indonesia	4.3	97.8	4.7	4.6	76.6	9.2
Kenya	1.4	75.0	2.5	0.5	33.0	3.5
Mali	0.9	100.0	0.9	0.3	31.6	1.5
Mozambique	0.6	60.6	1.6	0.3	27.6	2.2
Uganda	2.1	100.0	2.1	0.4	22.6	3.7

Current rate of progress insufficient to achieve universal access by 2030

On track to reach target of universal access by 2030

Source: Authors' elaboration, based on WASHwatch, 2015

The least-developed countries did not meet the MDG targets for drinking water or sanitation.

- Although LDCs did not meet the drinking water target, 42 per cent of their current population has gained access to improved drinking water sources since 1990 (WHO and UNICEF, 2015).
- Open defecation in LDCs fell from 45 per cent in 1990 to 20 per cent in 2015, yet the total number of people practising open defecation increased because of population growth. South Asia and sub-Saharan Africa alone account for 839 million of the 946 million people who practise open defecation (WHO and UNICEF, 2015).
- The unserved, for both drinking water and sanitation, are increasingly concentrated in a few regions and countries. More than three-quarters of those without access to either live in sub-Saharan Africa, South Asia and East Asia (WHO and UNICEF, 2015).

Massive disparities in access to WASH services persist within countries.

- Disparities in access to WASH services within countries are masked by national and international averages (WHO and UNICEF, 2014).
- Inequalities in access between rural and urban populations are decreasing at a slow rate (WHO and UNICEF, 2014). Urban households are much more likely to have improved water and sanitation facilities than rural households (Table 5, above).
- Rural households account for 80 per cent of those who lack access to improved drinking water and 70 per cent of those who live without improved sanitation (WHO and UNICEF, 2015).
- Residents of slums and illegal and informal settlements typically lack access to basic public services and have poorer WASH services, in terms of both quality and quantity, than residents in formal settlements.
- Whereas the poorest often rely on drinking water from pay-as-you-go services and public water points, higher-income households in urban areas typically have access to piped drinking water or other improved sources (WHO and UNICEF, 2014).
- Few countries have managed to halve the proportion of the poorest without access to improved drinking water and sanitation (Figure 13). Large disparities in service levels remain between slum dwellers and residents in formal settlements, and between rich and poor in rural areas.

Inequalities in access to WASH services have been poorly addressed.

- Despite calls to action, the bottom of the pyramid is not benefitting proportionally from increased

investment in WASH systems. With the notable exceptions of Bangladesh and Thailand, most countries still face large inequalities.

- These inequalities result from poor governance and the failure to allocate funds to follow demand. Piped water systems are poorly governed in many cities.
- High connection fees prevent the poor and disadvantaged from benefitting from the service, even as those who are better off and already connected receive disproportionately high subsidies (WHO and UNICEF, 2015).

TREND 9. CONTINUED INADEQUACY AND UNSUSTAINABILITY OF WASH FINANCE

TREND

Financing to achieve universal access to safe WASH services remains a challenge. The total capital cost of meeting the WASH targets in SDGs 6.1. and 6.2 is estimated at US$114 billion per year—three times the current investment levels. This excludes the costs for financial and institutional strengthening needed to ensure ongoing operation of these services. Despite growing awareness of the need for sustainability, budget allocations for operation and maintenance costs have not increased.

Funding for sanitation is disproportionately low, considering the gap in access to improved services. Large-scale water supply infrastructure continues to receive the majority of funding; simpler water supply infrastructure and sanitation as a whole remain severely under-funded. Urban areas are the main recipients of funds to the sector.

Official development aid to the sector is increasing and alternative funding mechanisms are gaining prominence. Monitoring of funding flows remains incomplete despite efforts to improve monitoring and data collection.

Facts & figures

Higher funding is required to achieve universal access to safe water and sanitation.

- Current WASH expenditure is estimated at 0.73 per cent of global GDP (UNU and UNOSD, 2013).
- Those expenditures need to be tripled to achieve universal access to safe WASH services by 2030, the goal for SDG targets 6.1 and 6.2 (WSP, 2016).
- The total capital costs of realising SDGs 6.1 and 6.2 are estimated at US$114 billion per year, roughly US$72.4 billion for urban areas and US$41.3 for rural areas. This excludes the costs for financial and institutional strengthening needed for operation and maintenance (WSP, 2016).
- Of the total cost of providing basic WASH services, 60 per cent should be allocated for sanitation and 30 per cent for drinking water (WSP, 2016).
- National governments report that 43 per cent of total WASH expenditure goes to sanitation, and only 27 per cent of ODA is allocated to this sub-sector (WaterAid, 2015).

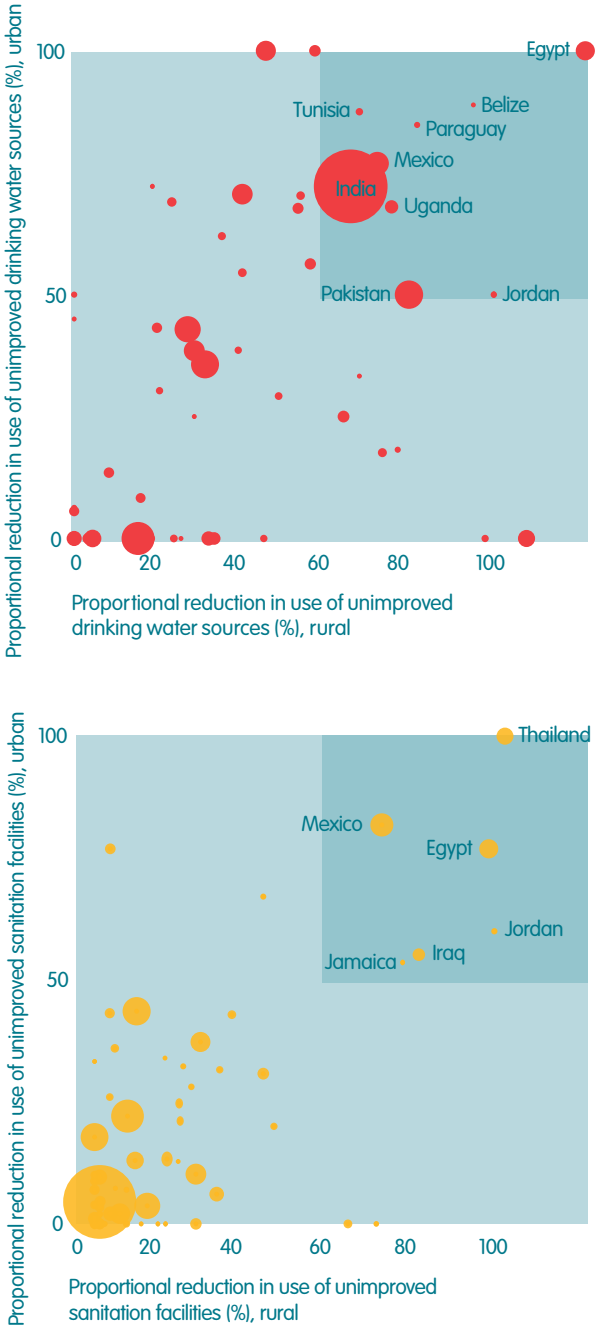


FIGURE 12 REDUCTION IN PROPORTION OF VERY POOR WITHOUT ACCESS TO IMPROVED WATER AND SANITATION, URBAN AND RURAL, SINCE 1995 Source: WHO and UNICEF, 2015.

Current WASH finance is largely concentrated in urban areas.

- In the most recent GLAAS survey, respondents reported that only 18 per cent of national WASH expenditure goes to rural areas (Figure 14). Yet the 19 countries in the survey reported that 380 million people in rural areas lack access to improved sanitation or drinking water, versus 155 million in urban areas (WHO and UN-Water, 2014).
- With the majority of those without access to WASH services located in rural areas, it appears the money does not necessarily follow demand. However, the greater interest in financing infrastructure, outlined in Trend 4, indicates that more resources are expected to be available for funding on-site piped systems in both urban and rural areas, particularly in smaller cities where most of the population growth up to 2030 will take place.

Most investments focus on new infrastructure, with little attention to operation and maintenance.

- The increased awareness of the need for sustainable services hasn't yet been translated into increased budget allocations for operation and maintenance (O&M).
- WHO and UN-Water (2014) found that 63 per cent of external financing is allocated to new capital infrastructure, versus 23 per cent for maintaining existing services.
- The World Bank (2011) estimated that in African countries, public expenditure on O&M between 2000 and 2008 was only 12.7 per cent of total WASH expenditure.
- Although ODA to large sanitation systems grew by 182 per cent from 2010 to 2013, sanitation still accounted for only 25–27 per cent of ODA to the sector in 2013 (Figure 15) (WaterAid, 2015; WHO and UN-Water, 2014).

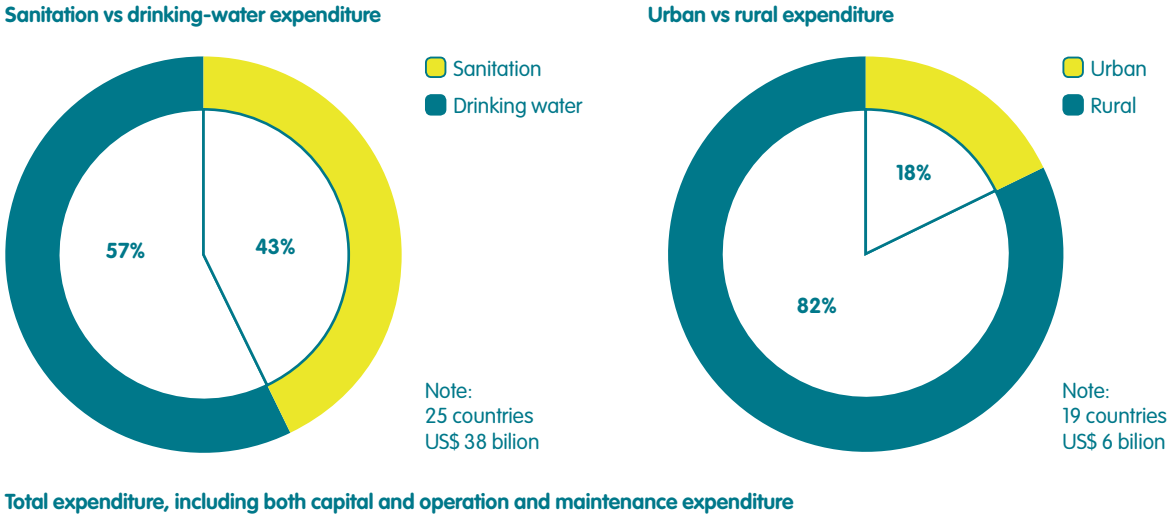


FIGURE 13 EXPENDITURE FOR SANITATION AND DRINKING WATER IN URBAN AND RURAL AREAS, 2014 Source: WHO and UN-Water, 2014

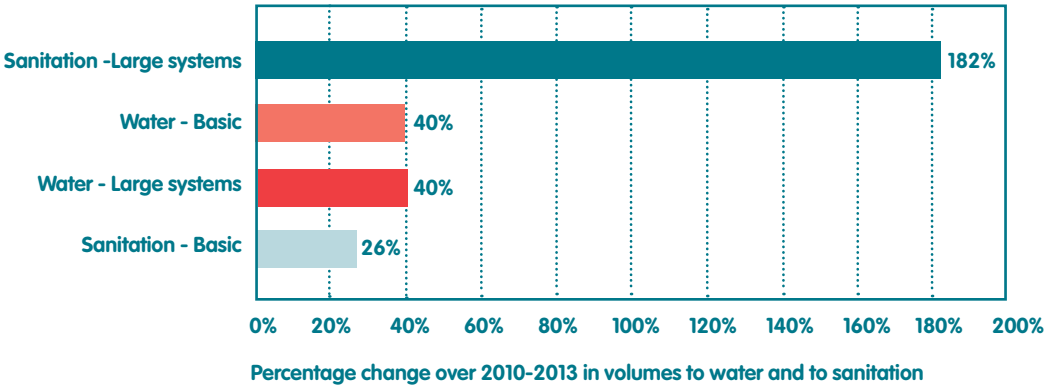


FIGURE 14 PERCENTAGE GROWTH IN AID TO WATER AND SANITATION, BY SUB-SECTOR, 2010–2013 Source: WaterAid, 2015

Hygiene remains low on the radar but is slowly gaining attention.

- Of 11 countries replying to the GLAAS survey on the hygiene component, seven report allocating more than either US$1 million or 1 per cent of their WASH expenditure to hygiene promotion (WHO and UN-Water, 2014).
- In our experience, collecting data on hygiene promotion expenditure remains difficult because hygiene is rarely the responsibility of a single governing body and tends to be integrated in other programmes.

Official development aid and overseas investments in WASH have increased yet cannot close the funding gap alone.

- From 2010 to 2012, ODA to WASH grew by 30 per cent to US$10.9 billion. WASH also accounts for a growing proportion of aid commitments (Figure 16).
- Funds are increasingly directed at low-income countries, particularly in sub-Saharan Africa. The region received 38 per cent of WASH ODA in 2012, up from 27 per cent in 2010. Estimates put the annual funding gap for WASH in sub-Saharan Africa at US$9.1 billion; current ODA amounts to US$2.2 billion (WaterAid, 2015).
- Other official flows[6] to the WASH sector have increased from US$803 million in 2003 to US$2.2 billion in 2013. Multilateral institutions are responsible for most such loans to the sector, with the International Bank for Reconstruction and Development, the largest provider, accounting for an average US$1.2 billion per year over 2011–2013 (WaterAid, 2015).
- Financial support for WASH from philanthropic foundations has grown rapidly but remains relatively small. From 2003 to 2011, foundation commitments grew from US$5 million to US$257 million, the equivalent of about 2 per cent of ODA to the sector. This growth is primarily attributable to the Bill & Melinda Gates Foundation, but other private and corporate bodies are also showing interest in making grants for WASH sector initiatives (WHO and UN-Water, 2014).
- Remittances could potentially be mobilised for WASH investments. In rural areas where demand is the major obstacle to provision of WASH, remittances might contribute to improving access by creating demand.

Overall, government budgets for WASH are growing but remain insufficient.

- Government budgets and expenditure for WASH have increased (Table 7). Mozambique, for instance, almost tripled its WASH budget from 2007 to 2012 (WHO and UN-Water, 2014).
- In most low-income countries, funding remains insufficient. In 2011, governments of rural-urban

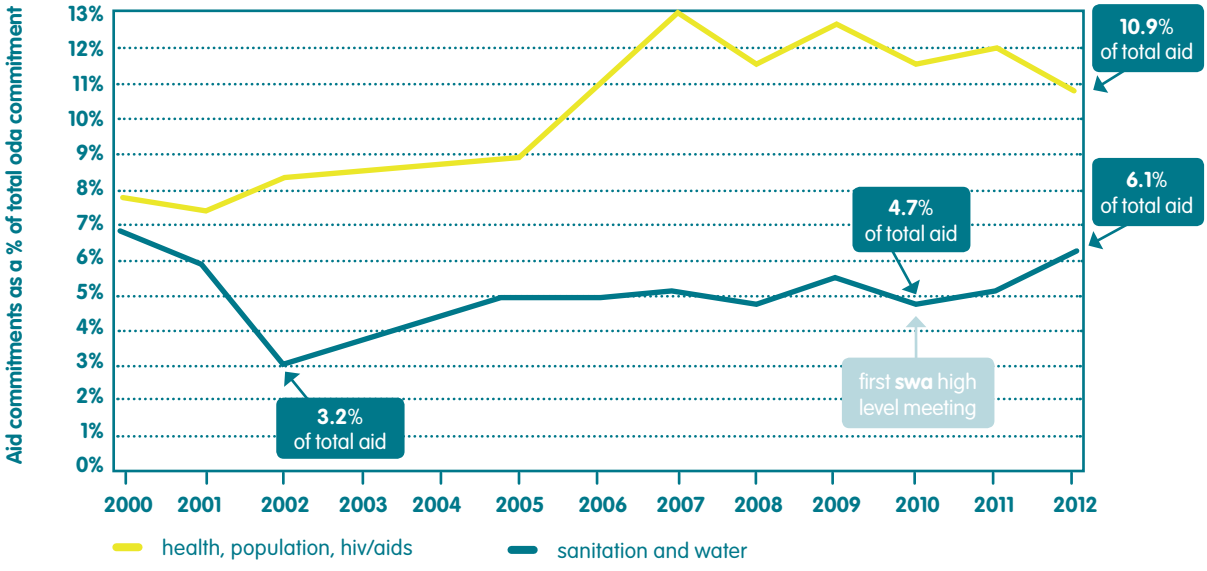


FIGURE 15 AID COMMITMENTS TO WASH AND HEALTH AS PERCENTAGE OF TOTAL AID, 2000–2012 Source: OECD-CRS, 2014

[6] Other official flows consist of "loans made by donors to the private and public sector in developing countries [and are] distinguished from ODA because they do not meet the concessionality criteria to be classified as ODA" (Wateraid, 2015).

countries in sub-Saharan Africa allocated on average 0.39 per cent of GDP to the WASH sector, and in rural countries WASH expenditure was 0.26 per cent of GDP. Both figures are well below the 1 per cent benchmark suggested by the 2006 Human Development Report (World Bank, 2011).

- In 2008, 32 African governments committed to allocating 0.5 per cent of GDP to sanitation and hygiene in the e-Thekwini Declaration. Yet by 2015, none had met the target, and fewer than half of the signatories had allocated specific public sector funds for sanitation and hygiene programmes (AfricaSan, 2015). The latest progress report of the Sanitation and Water for All High-Level Panel also found that the financial commitments to tracking and allocation showed very slow progress (SWA, 2015).
- Only one-third of countries reporting to the 2014 GLAAS survey had fully defined, agreed upon and followed sector financing plans. The GLAAS survey found that most decisions in the sector are not based on evidence because of low capacity for monitoring, data collection and analysis (WHO and UN-Water, 2014).
- Few countries have publicly available records for public expenditure on WASH. Only five of the 10 countries where IRC works provided this information to the GLAAS survey.

Tariffs are too low to cover O&M costs, leading to premature failure of many systems.

- In 70 per cent of countries surveyed in the 2014 GLAAS report, tariffs did not cover the cost of O&M, necessitating high subsidies or causing poor service (WHO and UN-Water, 2014).
- Higher-income countries are more likely to cover costs by tariffs, but low-income countries struggle with this mechanism and rely on external support or subsidies to cover shortfalls (Figure 17).

TABLE 7 PUBLIC AND DONOR FUNDING FOR WASH IN SELECTED COUNTRIES

	Average public expenditure as percentage of GDP, 2000–2008	Public expenditure as percentage of GDP, 2013	Donor finance as percentage of total WASH finance, 2013
Ghana	0.33	0.46	22–52*
Burkina Faso	0.28	0.79	55
Bangladesh	—	0.26	36
Ethiopia	0.26	0.37	—
Mozambique	0.85	—	—

* TrackFin pilot assessment

Source: WHO and UN-Water, 2014

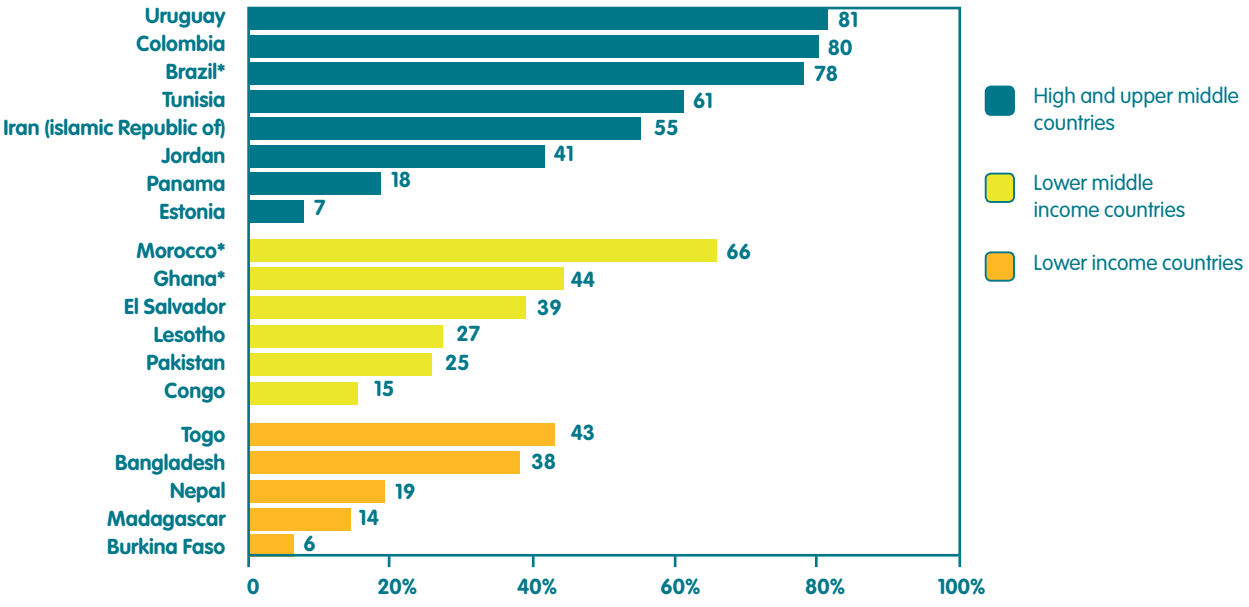


FIGURE 16 CONTRIBUTION OF HOUSEHOLDS AS PERCENTAGE OF TOTAL WASH FUNDING, 2014

Source: WaterAid, 2015

- Affordability schemes are increasingly emphasised as a measure to improve cost recovery by raising overall tariffs while ensuring access to necessary services for disadvantaged groups (WHO and UN-Water, 2014; World Bank, 2011).

Links with the private sector are growing stronger.

- Particularly in the sanitation sector, private finance and entrepreneurs are often seen as the solution. In our experience, donors are supporting start-ups and new initiatives to a great extent. For example, the Government of the Netherlands supports start-ups through the Young Expert Programme.
- The market for WASH services—both rural and urban, piped and non-piped—is growing rapidly. Estimates indicate that middle-income households lacking improved on-site sanitation represent a market worth US$2.6 billion, and poor households, US$700 million (Sy et al., 2014).
- Although community-based management remains the dominant approach, private sector provision is growing in importance, especially for piped schemes in small towns (Foster, 2012). In some West African countries—Benin, Burkina Faso, Mali, Niger, Rwanda and Senegal—more than a quarter of rural piped schemes are privately operated (Lockwood and Smits, 2011).

Data on WASH financing flows are difficult to obtain.

- Expenditure estimates by TrackFin, which conducted detailed data collection and analyses, are higher than those reported by the GLAAS surveys. In Brazil, for instance, TrackFin found WASH expenditure was 1.18 per cent of GDP, versus the GLAAS estimate of 0.11 per cent. In Morocco, TrackFin and GLAAs estimates were 0.38 per cent and 2.3 per cent, respectively (WHO and UN-Water, 2014).
- Improved monitoring of financing, particularly for sub-sector expenditure, is necessary to ensure efficient use of limited resources. Over time, more accurate information can support better decision-making so that funds are directed to where they are needed.
- According to the Sanitation and Water for All High-Level Panel, 21 countries have made a total of 25 commitments to national monitoring of financial flows. At the 2015 mid-term review, progress was reported for only half the commitments (SWA, 2015). That leaves researchers scouring national budgets for information.

TREND 10. EVOLVING APPROACHES TO WASH SERVICE PROVISION

TREND

The human right to water and sanitation is increasingly acknowledged by countries around the world but often not acted upon. The SDGs set a clear deadline—2030—for achieving universal access to safe drinking water and sanitation.

Piped water supply systems for both urban and rural areas are a growing trend. Yet good governance is necessary to ensure that the poor and disadvantaged can benefit from expansion of water services. Inequalities within countries remain persistent. In rural areas hand pumps are likely to remain important, but high failure rates remain a problem.

Sanitation is still often addressed as an infrastructure issue instead of as a whole system for the containment, collection, transportation, treatment and reuse of waste. In urban areas, population density requires alternative approaches to providing sanitation services.

Facts & figures

In the international arena, the SDGs are framing WASH in a new context.

- The focus on universality, safety, affordability and equity of water services, the link between WASH and water resources management and the underlying concept of sustainability are likely to spur new standards and approaches to WASH (UN, 2015).
- Additionally, climate change and the broader environmental agenda offer an opportunity for WASH to gain momentum. For instance, efforts to reduce environmental pollution and mitigate the damage of extreme weather events may draw attention to the effects of human and solid waste in waterways and water pollution more generally. This will have a side effect of improving drinking water quality.
- The SDGs call attention to the needs of women and girls in target 6.2, on access to safe sanitation and hygiene. Lack of access to menstrual hygiene products and services, as well as safe space to change and store sanitary products, results in high rates of school absenteeism and dropouts amongst young girls and women (UN, 2015).

The use of hand pumps is increasingly criticised.

- Although hand pumps have been a major source of improved drinking water in recent decades, they have their critics. High failure rates, attributable to poor construction and lack of management, spare parts and education, have prompted exploration of alternative approaches to providing safe drinking water.
- In sub-Saharan Africa, failure rates have been estimated at 30–40 per cent (RWSN, 2009). Seasonal malfunctions are a recurring problem, and even functioning hand pumps may be inconveniently located and yield insufficient water of poor quality (Adank et al., 2014).
- IRC strongly believes that reliable supply chains for spare parts, better training in O&M and improved monitoring of breakdowns—for instance, through mobile monitoring systems—can reduce failure rates.

One growing trend is piped water supply systems in both urban and rural areas.

- Rural service provision by on-premises piped water supply has increased rapidly from 1990 to the present, approaching urban rates in some regions (Figure 18).
- Some regions lag far behind in expanding access to improved drinking water sources in rural areas. For instance, sub-Saharan Africa has had only a 1 percentage point increase in rural service and a 10 percentage point decrease in urban service. This is likely a consequence of rapid population growth and poor governance (WHO and UNICEF, 2015).
- With most of predicted population growth expected to occur in small cities, greater piped drinking water coverage is likely to result in cost-effective expansion of services.
- However, small towns and cities, while benefitting from economies of scale sufficient as they expand reticulated systems, may not be large enough for efficient management by water utilities (Adank, 2013). How O&M will be organised to ensure sustainable service delivery remains a question.

Sanitation, often narrowly defined as a infrastructure issue, needs a whole-systems approach.

- The faecal disposal chain, from containment, collection and transportation to treatment and reuse, is broken in most low-income countries.
- In urban areas, lack of space limits both opportunities for on-site sanitation facilities and accessibility for disposal trucks.
- The notion persists that sanitation is a private matter to be handled by households—the primary approach to sanitation in the past and now a barrier to ensuring continuity in the faecal disposal chain.
- Good governance in the form of division of responsibilities for sanitation and water is still lacking. Although some countries, such as Madagascar, have established a ministry of water and sanitation, many developing countries still lack an official division of responsibility for WASH issues (Galli et al., 2014).

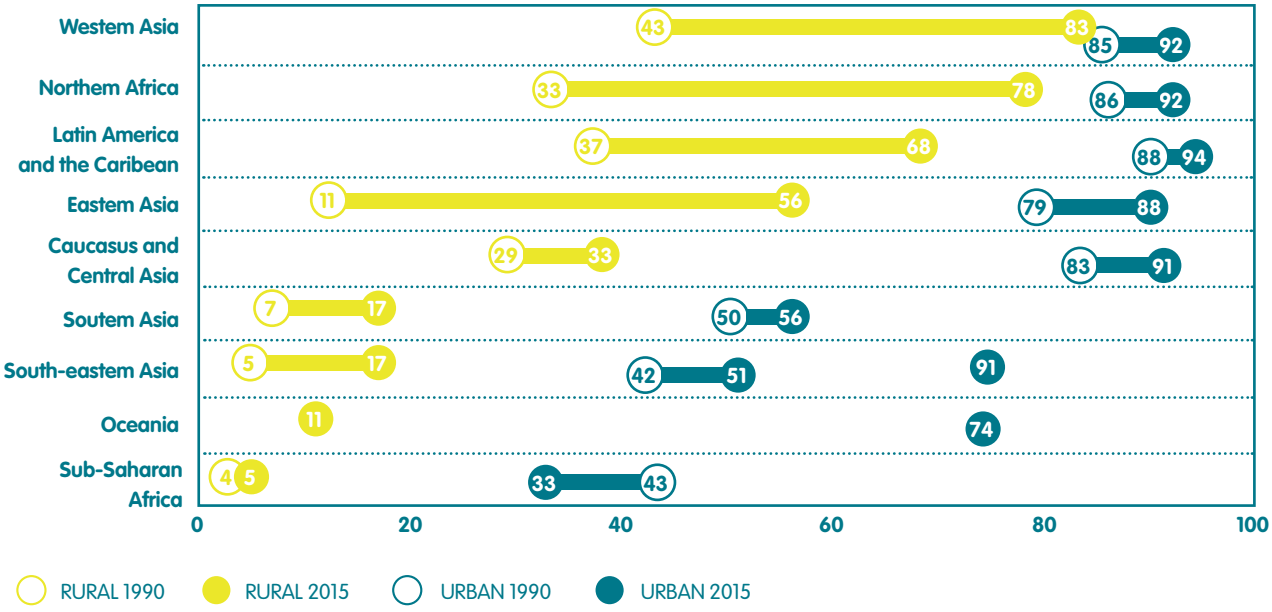


FIGURE 17 RURAL AND URBAN EXPANSION IN PIPED WATER SUPPLY ON PREMISES, BY REGION, 1990 AND 2015

Source: WHO and UNICEF, 2015

BOX 2 SOCIAL AND CULTURAL BARRIERS TO SANITATION

Case study on in-home latrines

A study by Coffey et al. (2015) illustrates how social and cultural barriers in rural northern India prevent an efficient sanitation chain. High rates of open defecation in the region are said to be caused by cultural ideas, such as the notion that household latrines damage the purity of the home. Low demand for in-home sanitation services is one result.

Additionally, resistance to traditional caste divisions also affects sanitation issues. Members of the bottom caste, who typically emptied latrines, are in some cases refusing this line of work, leading to lower rates of collection of waste, thus making latrines less attractive. Understanding the cultural and social context offers insight into what approaches are likely to succeed in specific areas.

The human right to water and sanitation is increasingly being acknowledged, but practical implementation is lacking.

- The human right to water and sanitation was recognised by the United Nations General Assembly in July 2010. The number of countries including water as a human right in national legislation has since grown: two-thirds of the 94 countries surveyed by WHO (2014) recognise drinking water and sanitation as human rights, and 80 per cent have national policies on water and sanitation.
- A gap remains between legislation and practice: universal access to water and sanitation sanitation is still far from being achieved (WHO and UN-Water, 2014).
- By acknowledging the human right to water and sanitation, national governments make a commitment to achieving universal access. Although UN resolutions do not give a date for achievement, the addition of water and sanitation goals in national and international agendas has prompted human rights groups to pick up the issue (see, e.g., Righttowater.info).

TREND 11. ALTERED PRIORITIES IN DUTCH DEVELOPMENT COOPERATION POLICY

TREND

Dutch development cooperation policy remains focused on poverty eradication and sustainable growth but with new emphasis on economic development, combining trade, aid and private sector involvement.

Although the budget for traditional development aid is sharply reduced, innovative financing mechanisms are being implemented. The Dutch government sees a role for civil society organisations in lobbying and advocating for sustainable growth, poverty eradication and human rights, linked to the priority areas.

In the water sector, development cooperation has shifted in emphasis towards issues involving deltas, flood management, irrigation and urban water supply, and away from the provision of basic social services. Despite this, in 2015 the Netherlands renewed its commitment to extend access to improved sanitation to 50 million people and drinking water to 30 million.

Facts & figures

The focus has shifted from providing basic social services to encouraging economic development and strengthening civil society.

- Economically productive sectors will receive more attention than social sectors. The three aims in Dutch trade and international cooperation policy are summarised as “First, to eradicate extreme poverty in a single generation; second, sustainable inclusive growth all over the world; and third, ensure success for Dutch companies abroad” (Ministry of Foreign Affairs, 2014).
- Water is one of the four top priorities, along with food security; women’s rights and sexual and reproductive health and rights; and security and the rule of law.
- Additionally, the Ministry of Foreign Affairs aim to support nongovernmental and civil society organisations and trade unions in priority countries to promote human rights and improve working conditions (Government of the Netherlands, 2014).

The Netherlands is reducing ODA and increasing focus on innovative financing mechanisms.

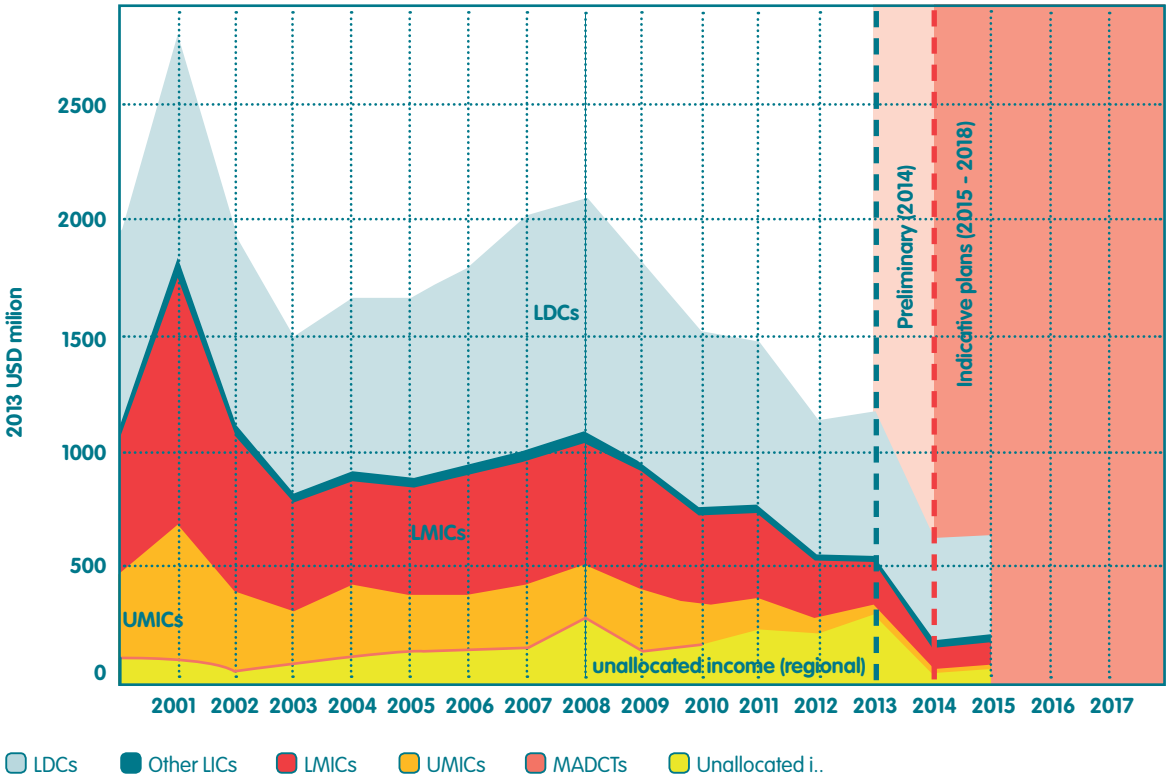
- Net Dutch country-programmable aid to all regions has fallen significantly over the past nine years (Figure 19), and this trend is projected to continue.

- Dutch ODA will decrease by €750 million a year from 2014 to 2017, and by €1 billion a year from 2017 onwards.
- In 2012, Dutch ODA equalled 0.7 per cent of GDP, in line with UN "best efforts" targets. However, by 2017 it is expected to fall to 0.55 per cent of GDP, and the Ministry of Foreign Affairs budget will be cut 25 per cent by 2018 (Ministry of Foreign Affairs, 2014).
- Disbursement of Dutch ODA is moving from concessional grants and loans and towards innovative financing mechanisms, such as guarantees and insurance, to minimise risks for investors and catalyse private investment and funding. These forms of development assistance are not considered ODA at present, hence the low ODA flows from the Netherlands (Ministry of Finance, 2013; Ministry of Foreign Affairs, 2014).

A change in the agenda, from aid to trade, has begun.

- The Government of the Netherlands aims to move from an aid to a trade relationship with a growing number of countries. Although low-income countries such as Mozambique and Ethiopia will mainly receive support to reduce poverty, Ghana and Indonesia will see aid phased out as they are labelled transition countries (Ministry of Foreign Affairs, 2014).
- The Dutch government, while continuing to support aid-focused approaches in low-income countries, is encouraging private sector participation in solving drinking water problems in low- and middle-income countries (Ministry of Foreign Affairs, 2014).
- Since 2002, Dutch development cooperation policy has increasingly focused on public-private partnerships (PPPs) both for executing aid programmes and for mobilising private funds for development. Of €48.3 million spent by the Government of the Netherlands on developmental PPPs, €13.5 million went to developmental PPPs in the WASH sector (Ministry of Foreign Affairs, 2013).

The Dutch government supports efforts to improve domestic resource mobilisation and reduce tax evasion. The Netherlands is supporting the call for filling the funding gap for the SDGs by raising domestic revenue as



Please note that for Netherlands the figures for 2014 and beyond represent the best available estimates of most recent spending as well as it indicative forward spending plans.

These figures represent providers' most recent and future plans of Country Programmable Aid (CPA) as reported to the 2015 OECD-DAC Survey on Forward Spending Plans. The figures for 2014 are provisional spending figures. For 2015 and beyond, these are providers' current indicative planning figures and do not represent firm commitments, but rather providers' best estimates of future aid efforts. They can include both future spending of already committed, on-going aid projects and programmes, as well as estimates of future total country budget envelopes over the coming years. Total figures presented for each provider should therefore be taken as indicative and not misconstrued as obligations of any sort.

FIGURE 18 DUTCH COUNTRY-PROGRAMMABLE AID, BY INCOME AND REGION, 2000–2015 Source: OECD, 2015a

well as through private funding flows. For instance, the Netherlands is part of the Addis Tax Initiative, which aims to double capacity-building efforts in developing countries for domestic tax collection (EU, 2015).

Dutch development programmes focus on three goals for water management:

- Raising water productivity in farming by 25 per cent.
- Improving river basin management and making deltas safe.
- Providing 50 million people with access to improved sanitation and 30 million with access to improved drinking water sources by 2030 (Ministry of Foreign Affairs, 2015, 2014).

The Netherlands focuses on transboundary water management in seven international river basins. Fostering cooperation between upstream and downstream countries is the main approach taken by the Netherlands to improve water security (Ministry of Foreign Affairs, 2013).

In April 2015, Minister Ploumen for Foreign Trade and Development Cooperation committed to give 30 million people access to safe drinking water and 50 million people access to sanitation services. This can contribute to reaching the SDG 6 targets on universal WASH access. It remains to be determined which countries and localities will benefit from the pledge and whether efforts to improve access to WASH will follow demand, since rural sanitation and hygiene have previously been largely neglected in the Dutch development agenda (Ministry of Foreign Affairs, 2015).

Only four of the countries where IRC works are identified as priority countries for water in Dutch development cooperation policy. Ghana, Mozambique, Bangladesh and Indonesia are amongst the priority countries where the Dutch government prioritises efforts to improve access to WASH and water-related services and infrastructure (Table 8). Ethiopia and Uganda are recognised as priority countries, but not for water. India is regarded a trade partner, and Burkina Faso and Honduras are not priority countries in Dutch foreign policy (Ministry of Foreign Affairs, 2014).

TABLE 8 DUTCH PRIORITY COUNTRIES FOR DEVELOPMENT COOPERATION

	Country income group	Country status	IRC country office (CO) or ongoing programme (OP)	Water prioritised?	Budget for water, 2014–2017 (€ million)	Change from 2011–2015 budget (€ million)
Africa						
Benin	LIC	Transition	—	Yes	73.5	+3.5
Burundi	LIC	Aid	—	No	—	—
Ethiopia	LIC	Transition	CO	No	—	—
Ghana	LMIC	Transition	CO	Yes	65	–4.5
Kenya	LMIC	Transition	OP	Yes	26	–11
Mali	LIC	Aid	OP	Yes	34	–1.7
Mozambique	LIC	Transition	OP	Yes	33.3	–29.3
Rwanda	LIC	Aid	—	Yes	35	+30
South Sudan	LIC	Aid	—	No	—	—
Uganda	LIC	Transition	CO	No	—	—
Asia						
Afghanistan	LIC	Aid	—	No	—	—
Bangladesh	LMIC	Transition	OP	Yes	95	–30
Indonesia	LMIC	Transition	OP	Yes	22	–25
West Bank, Gaza Strip	LMIC	Aid	—	Yes	16.6	+7.6
Yemen	LMIC	Aid	—	Yes	22.5	–1.3

LIC = low-income country LMIC = low- and middle-income country

Countries designated "aid" lack the capacity to solve poverty problems alone and are usually "fragile states" affected by war, weak governance and ethnic and political tensions. "Transition" countries are typically low- and middle-income countries that get support to reduce poverty, boost economic growth, increase their market access and improve the business climate.

Source: World Bank, 2015b; OECD, 2014b; Ministry of Foreign Affairs, 2014; Dutch WASH Alliance, 2014

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Annex

TABLE A1 TRENDS, 2016–2020

Group	Trend	Projection	Status
International development	Economic growth and human development	Increasing and improving	Continuing
	Urbanisation	Increasing	Continuing
	Water scarcity	Increasing	Continuing
	Governance	Complex and unpredictable	Continuing
Access to WASH services	Access to water and sanitation	Good progresss, but insufficient for sanitation to reach MDG target; inequalities are increasing	Continuing
Financing of WASH services	Investment levels in WASH	Scarce data; most estimates show underinvestment	Still underinvestment, with slow progress
	Public spending on capital investment	Most public funds in WASH sector spent on new or upgrade of infrastructure	Changing, more going to O&M
	Targeting of WASH investments	Investment concentrated in LDCs, but fragile and failing states left behind; humanitarian aid surpasses ODA for WASH	Continuing, but multilaterals concentrate on LDCs, bilaterals not so much
	Harmonisation and aid effectiveness	Proposed increases promise progress	Little evidence of further progress
	Changes in aid landscape	Classic development aid concentrates on LDCs; UN and large bilaterals losing influence in setting development agenda	
Dutch development coordination policy	Dutch development cooperation policy	Follows tenets of 2010 WRR report	Continuing
Information and communications technologies	Growing ICT disparities	Increasing	Developing countries switching to mobile technology
	New tools and social media	Exponential growth	Continuing
	Products and services available digitally	Increasing	Continuing
WASH content, issues and approaches	Focus on sanitation	Increasing	Continuing
	Sustainability of rural supply	Need shift to service delivery approach	Continuing
	Decentralisation capacity gap	Despite decentralisation of responsibility, funding remains centralised	Continuing
	Accountability and impact assessment	Increasing demand for performance indicators and monitoring	Continuing
	Climate change	Increasing effects	Continuing
	Technology development	Increasing	Continuing
	Right to water and sanitation	Increasing acknowledgement of human rights Little implementation in practice	Continuing

TABLE A2 IRC PARTNER COUNTRIES

	OECD income and lending group
Bangladesh	Lower-middle income
Burkina Faso	Low income
Ethiopia	Low income
Ghana	Lower-middle income
Honduras	Lower-middle income
India	Lower-middle income
Indonesia	Lower-middle income
Kenya	Lower-middle income
Mali	Low income
Mozambique	Low income
Uganda	Low income

Source: World Bank, 2015b

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