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UNICEF's Water Game Plan: **Universal safe and sustainable water services for all by 2030**

March 2020

A technical working group was formed comprised of headquarters, regional office and country office staff during the development of this water game plan and drafts were reviewed in global and regional network meetings.

Cover photo credit: © UNICEF/UN0310612/Harikrishna Katragadda

Photo description:

Pooja Namdev fetches drinking water supplied by the 900W solar panel which fills up a 5000L tank for 27 families in Kalajahi Thakar Vasti in Kanesar village, Khed, Pune, India.

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UNICEF's WATER GAME PLAN: Universal safe and sustainable water services for all by 2030

Vision

Access to clean water is a fundamental human right, and a prerequisite for the realisation of many other human rights.[1] UNICEF works towards its progressive realisation with a focus on priority interventions for children, vulnerable families and communities, in both humanitarian and development contexts.

Achieving universal access to water sources that are improved, with a round trip for water collection not exceeding 30 minutes, safe from contamination, and available when needed is at the heart of the Sustainable Development Goal (SDG) target 6.1, with the ultimate aim of having drinking water accessible on premises (e.g. at home). However, in 2017 the population lacking basic water services (meeting improved and collection time criteria only) was 785 million globally, including a worrying number collecting water directly from surface water sources – estimated at 144 million people. If current trends on water provision continue, global coverage will be around 96 per cent in 2030, falling short of universal access to even a basic service level and falling even shorter from the SDG target of universal safely managed water supply. Indeed, only one in five countries below 95 per cent coverage is on track to achieve universal basic water services by 2030.[2] UNICEF's strategy is to intensify the organisation's interventions in those countries that are off track and/or have the potential to be game changers, by accelerating action towards universal access.

UNICEF's commitment and ambition to support water services for the most disadvantaged are steadfast and stronger than ever. This document presents UNICEF's 'game plan' to contribute to achieve universal safe and sustainable water services for all by 2030, and accelerate access to safely managed drinking water. The Water Game Plan helps operationalise the SDGs' call to 'leave no one behind' – and focuses on reaching those furthest behind first.

Only 1 in 5 countries below 95% coverage is on track to achieve universal basic water services by 2030

The Water Game Plan outlines UNICEF's programmatic focus and approaches in water provision over the life of the UNICEF current Strategic Plan to 2021, and beyond. It will help ensure that accelerating access to water services receives the deliberate and sustained attention it will require to succeed. Without a consistent focus on the issue, there is no doubt that both the SDG objectives and UNICEF's own objectives for water (as per Goal Area 4 in the Strategic Plan 2018-2021, and consecutive Strategic Plans beyond 2021) will be jeopardised. The Water Game Plan will ensure that there is a strong emphasis on both equity and the sustainability of results, with a strong focus on climate resilience, in line with UNICEF's Global WASH Strategy 2016-2030, and UNICEF´s overall shift to climate-resilient WASH programming.

Ultimately, the Water Game Plan sets out how UNICEF can and will continue to do its part in ensuring the most children possible can grow up in a safe and clean environment.

[1] United Nations General Assembly resolution 64/292. The human right to water and sanitation. (2010). Available here.

[2] UNICEF and WHO (2019). Progress on Household Drinking Water, Sanitation and Hygiene (2000-2017). JMP. Available here.

Background

Sufficient and consistent access to affordable, safe and sustainable water is critical for the development and wellbeing of children and mothers. Insufficient access to water at home impairs the physical and mental development of children, directly and indirectly. Insufficient access in schools lowers the enrolment, attendance and participation of children, particularly girls; and insufficient access in healthcare facilities reduces the scale and impact of healthcare service delivery.[3] Investing in drinking water has an economic impact, with both health and socio-economic benefits. Indeed, estimates for attaining universal access show a global economic return on water spending of US$3.30 to US$4.40 per dollar. The ratio is even higher in rural areas, where the return on investment is estimated to be US$6.80 for every dollar.[4]

Estimates for attaining universal access show a global economic return on water spending of US$ 3.30-4.40 per one dollar

As with human rights, many SDG Goals are inter-linked, and the fundamental human necessity for water makes achieving SDG 6 essential for progress on most other SDGs. The sustainable management of water underpins efforts to end poverty, advance sustainable development, and sustain peace and stability; it illustrates the cross-sectoral cooperation that will be essential in achieving the SDGs. However, population growth, the climate crisis, increasing inequity, and increasing demand for limited water resources are all unprecedented challenges to reaching these goals. Ensuring a balance is struck between access to water for the most vulnerable and meeting the need for economic development requires collaboration across several sectors – as well as strong advocacy, innovation (including innovative financing), and improved monitoring within the water sector itself. It is also critical that those without safely managed water services benefit from clear strategies to improve access to water supply and increase the levels of service. Indeed, the transition from the Millennium Development Goals (MDGs) to the Sustainable Development Goals has led to a change of focus, away from simply considering the numbers of people gaining access, to include a greater focus on equity and improving the quality of services.[5] It has also meant increased consideration is now given to the provision of water not just at home but in early education facilities, schools and health care facilities, as well as other institutional and public settings.

The shift to the SDGs has also made the case for a wider approach to managing water sustainably, going beyond simply providing a safe water supply service. It is now recognised that providing such services requires addressing elements such as water quality, wastewater management, water scarcity, service efficiency, water resources management, and the protection and restoration of water-related ecosystems. UNICEF's Strategy for WASH (2016-2030)[6] is aligned with this shift, acknowledging that unless all aspects of SDG 6 are addressed – beyond targets 6.1 (drinking water) and 6.2 (sanitation)– achieving universal access to safely managed drinking water will always be at risk.

The wider SDG global targets and indicators related to water are set out below.

[3] Latest evidence desk review can be found here.

[4] Hutton G (2018). 'Benefits and Costs of the Water Sanitation and Hygiene Targets for the Post-2015 Development Agenda', in Prioritizing Development (Chapter 23), Bjorn Lomborg [Ed], Cambridge University Press.

[5] In terms of time to collect water, water quality and availability.

[6] UNICEF (2016). Strategy for WASH (2016-2030). Available here.

Figure 1: **SDG global targets and indicators related to water**

SDG global targets		SDG global indicators	
6 CLEAN WATER AND SANITATION	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	6.1.1	Proportion of population using safely managed drinking water services
1 NO POVERTY	1.4 By 2030, ensure all men and women, in particular the poor and vulnerable, have equal rights to economic resources as well as access to basic services	1.4.1	Proportion of population living in households with access to basic services (including access to basic drinking water, basic sanitation and basic handwashing facilities)
4 QUALITY EDUCATION	4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, inclusive and effective learning environments for all	4.a.1	Proportion of schools with access to... (e) basic drinking water, (f) single-sex basic sanitation facilities, and (g) basic handwashing facilities
3 GOOD HEALTH AND WELL-BEING	3.8 Achieve universal health coverage (UHC), including financial risk protection, access to quality essential health care services, and access to safe, effective, quality and affordable essential medicines and vaccines for all		[Proportion of health care facilities with basic WASH services]

Source: Adapted from JMP's 2019 report Progress on Household Drinking Water, Sanitation and Hygiene, 2000-2017.

The water game plan's rationale and objectives

The Water Game Plan outlines key principles and approaches that support targeting those that have been left behind first, as well as promoting the acceleration of results towards safe and sustainable water services.

Programmatic guidance is necessary given context variations within and between regions, and to consider the complexity of shifting water programmes, helping to move towards higher levels of services that are not only safe and sustainable, but also resilient to different shocks and stresses. This needs to happen while UNICEF water programming is broadening its agenda to embrace work across SDG 6 targets, and beyond 6.1. The Water Game Plan considers how to incorporate strategic learning and recommendations from UNICEF´s Rural Water Supply Evaluation (2006-2016)[7] into programming. In line with UNICEF's overarching global priorities, particular attention is given to equity, gender, adolescents, children with special needs and youth.

The Water Game Plan has been developed incorporating the key principles of the UNICEF's Global WASH Strategy 2016-2030, and the SDG agenda. Its objectives are:

1. To set the level of ambition for water services towards 2030, aligned with UNICEF´s WASH strategy 2016-2030.

2. To identify a set of priority countries and expected regional contributions towards the key objectives of UNICEF's Strategic Plan[8] 2018-2021 (at the level defined by this Water Game Plan), increasing financial support to the most off-track countries with the highest funding gaps.

3. To define and prioritise the most appropriate programmatic pathways, based on context, that country offices can choose to follow, to progressively increase water service levels.

Key principles of the WASH Strategy:

- To set the ambition towards 2030
- To identify a set of priority countries and expected regional contributions
- To define and prioritise the most appropriate programmatic pathways
- To provide UNICEF country offices with a compilation of further guidance and resources.

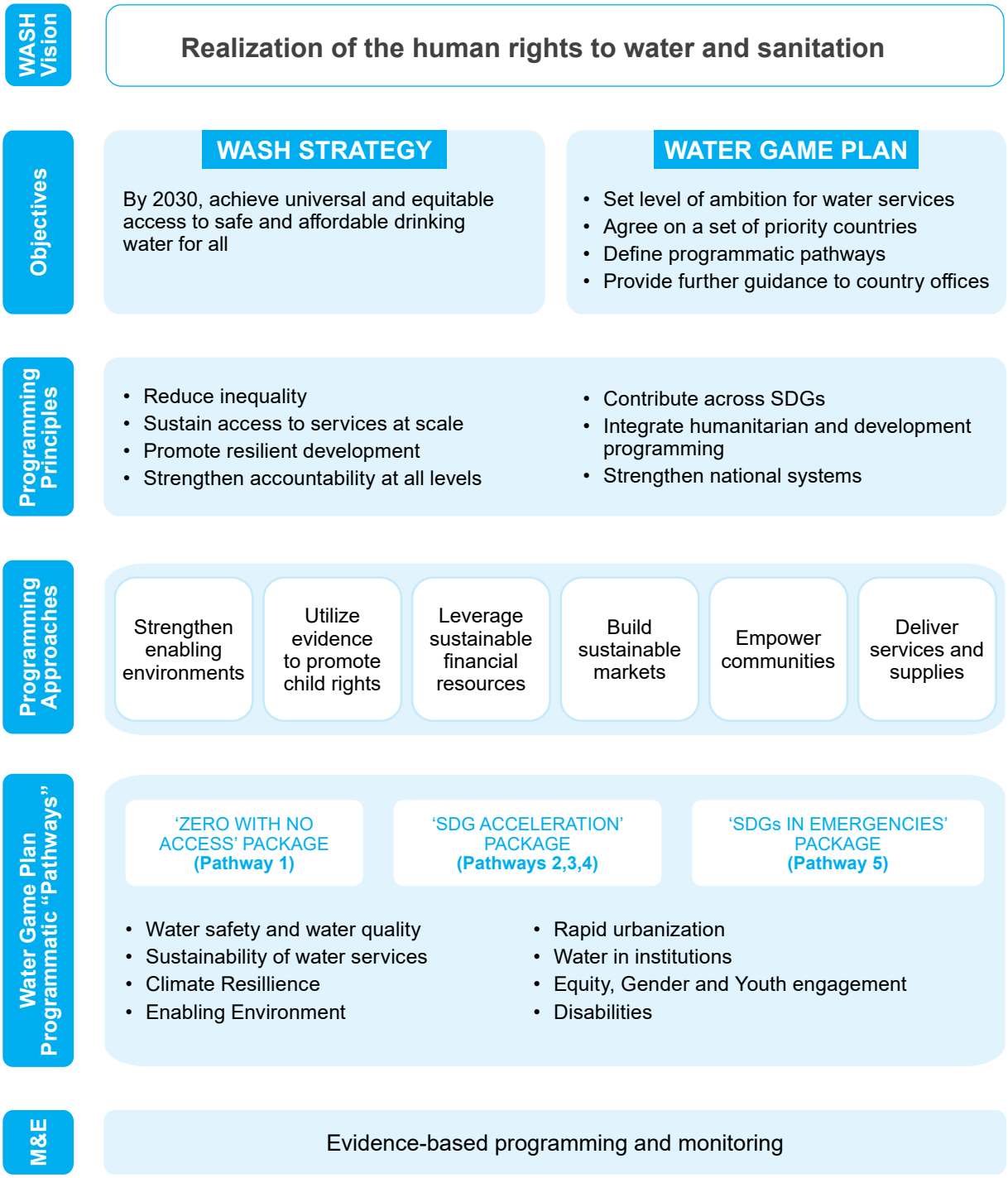
4. To provide UNICEF country offices with a set of up-to-date, evidence-based guidance and resources available to support them in the implementation of the Water Game Plan.

The target audience of the Water Game Plan is all UNICEF WASH staff working in design, plan, delivery and monitoring of water programmes. UNICEF Representatives and Deputy Representatives might find this document useful for the design and preparation of new Country Programmes, and for resource mobilisation purposes.

[7] Global evaluation of UNICEF'S drinking water programming in rural areas and small town (2006-2016) report can be found here.

[8] UNICEF Strategic Plan 2018-2021 can be found here.

Figure 2: **Combined 2016-2030 UNICEF's Global WASH Strategy and Water Game Plan strategic frameworks**



The Water Game Plan is designed to help UNICEF country offices understand and align with the latest corporate commitments, and to provide further support on adapting UNICEF's WASH strategy to their specific context.

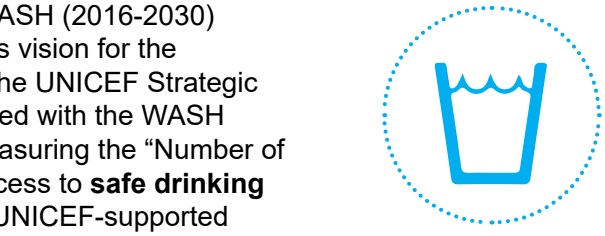
UNICEF´s ambition: Universal safe and sustainable water services for all by 2030

UNICEF's Strategy for WASH (2016-2030) outlines the organisation's vision for the attainment of SDG 6.1. The UNICEF Strategic Plan (2018-2021) is aligned with the WASH strategy and includes measuring the "Number of additional people with access to **safe drinking water services** through UNICEF-supported programmes".

Meeting the SDG criteria for safely managed drinking water services means that households must be using a basic service that meets the three criteria:

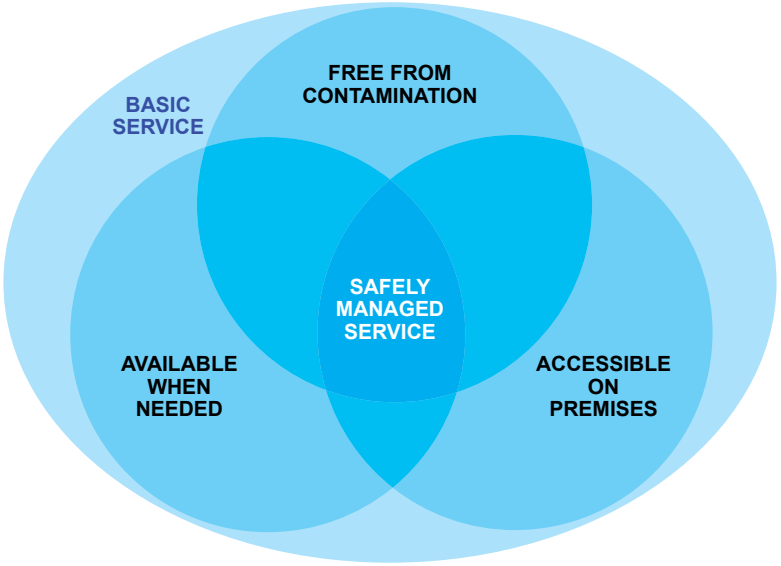
- **Free from contamination:** compliant with standards for faecal contamination (E. coli) and priority chemical contamination (arsenic and fluoride).
- **Available when needed:** sufficient water available or at least 12 hours per day.
- **Accessible on premises:** located within the dwelling, yard or plot.

While the Water Game Plan does support acceleration towards safely managed services (and therefore services that are 'accessible on premises'), the capital investments required to achieve the SDG target on safely managed water services amount to about three times current investment levels.[9]



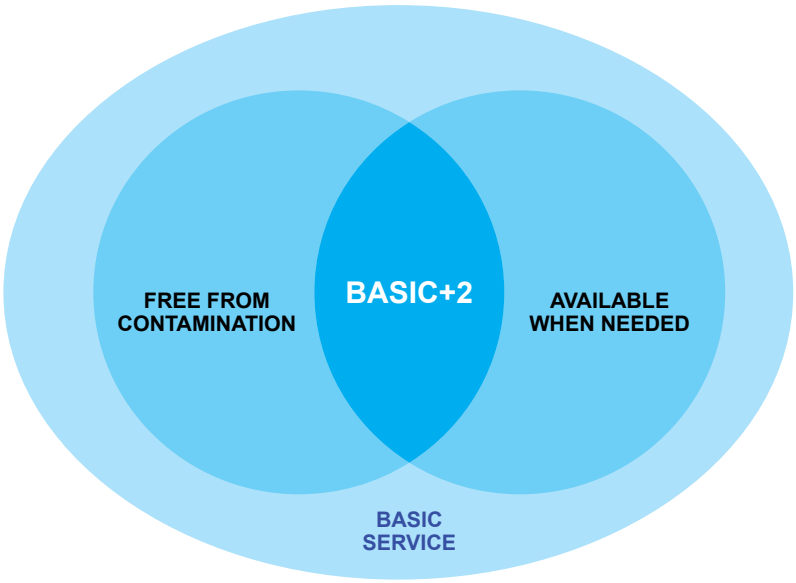
The UNICEF Strategic Plan (2018-2021) is aligned with the WASH strategy and includes measuring the "Number of additional people with access to safe drinking water services through UNICEF-supported programmes"

Figure 3: **A safely managed water service**



[9] Hutton G, et al. (2016). The Costs of Meeting the 2030 Sustainable Development Goal Targets on Drinking Water, Sanitation, and Hygiene. World Bank Group. Available here.

Figure 4: **UNICEF´s Basic+2 service level**



Continuing on current trajectories, globally, basic water service will reach only 96 per cent by 2030, leaving 340 million people without even a basic water service level; approximately 21 per cent of the world's population, or 1.8 billion people, will not have a safely managed water supply as defined by the SDG targets.[10] Indeed, only one in five countries below 95 per cent coverage in 2019 is on track to achieve universal basic water services by 2030.

UNICEF's Water Game Plan aims to sharpen the focus of the organisation on the path to 2030, by identifying an intermediate service level between 'basic' and 'safely managed' service level ambition of the SDG. This intermediate service level is **'Basic+2';** and is defined as a service that:

1. Meets the JMP basic service levels of:
   - An improved water source[11]
   - Collection time not exceeding 30 minutes (round trip including collection).
2. Also has **+2** of the three components of a **safely managed** service:
   - Free from fecal and priority chemical contamination
   - Available when needed.

The 'Basic+2' service level in the Water Game Plan should be seen as a stepping stone on the path to universal coverage by 2030, while ensuring UNICEF's commitments on equity remain at the heart of everything we do, ensuring that no one is left behind.

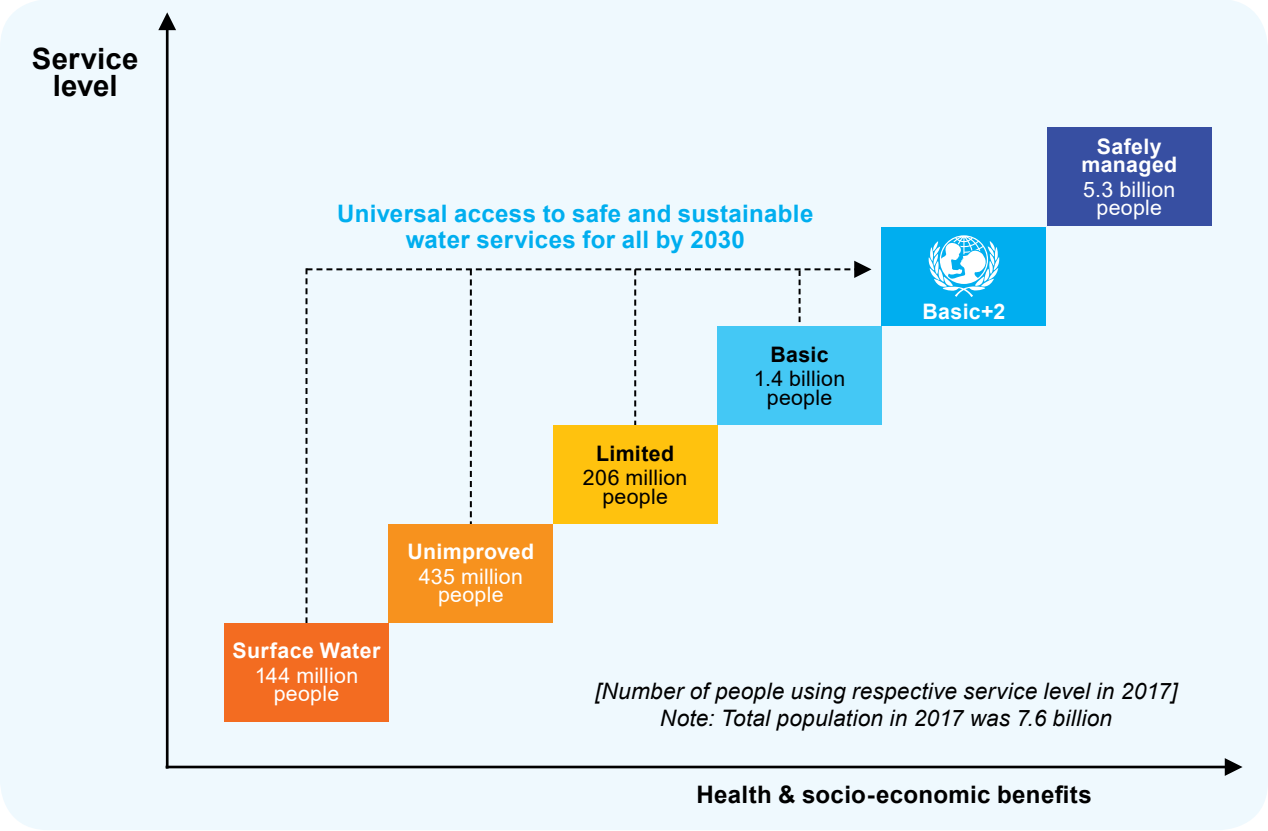
The ambitions of UNICEF's Water Game Plan are aligned with its WASH strategy (2016-2030) and its strategic plan (2018-2021):

- An initial target that by 2021, more than 60 million people are directly supported by UNICEF to gain access to at least Basic+2 water services, from 2018 to 2021;
- By 2030, UNICEF has contributed to close the gap by ensuring at least universal safe and sustainable water services (Basic+2) for all.

[10] Preliminary estimates are based on JMP's 2019 report Progress on Household Drinking Water, Sanitation and Hygiene 2000-2017, assuming population growth and current progress trends.

[11] Improved drinking water sources are those that have the potential to deliver safe water by nature of their design and construction, and include: piped water, boreholes or tubewells, protected dug wells, protected springs, rainwater, and packaged or delivered water. Source JMP WHO/UNICEF.

Figure 5: **Where Basic +2 service level fits in on the path to safely managed services**[12]



Source: UNICEF & WHO, JMP data for 2017

The following table explains the different levels of water service as defined by the JMP, and includes UNICEF´s Water Game Plan definition of **Basic+2.**

Table 1: **Characteristics of water service levels**

Indicator	Surface Water	Unimproved	Limited	Basic	Basic+2[13]	Safely managed
Source	Directly from a river, dam, lake, pond, stream, canal or irrigation canal	From an unprotected dug well or unprotected spring	Improved[14]			
Accessibility			Collection time exceeds 30 minutes for a round trip, including queuing	Accessed within a round trip of 30 minutes, including waiting		On premises
Quality					Free from contamination (bacteriological and priority chemical contamination)	
Availability					The service is available when needed (i.e. sufficient water in the last week or available for at least 12 hours per day)	

[12] It should also be noted that in 2017, a further 579 million people were estimated not to have direct access even to surface water sources.

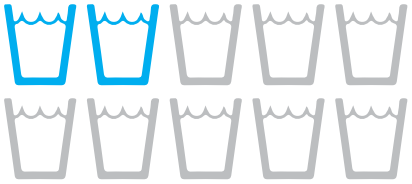
[13] Basic+2 is not a category in JMP but an intermediate step between basic and safely managed that UNICEF sets in its Water Game Plan 2020.

[14] Improved sources are systems that have the potential to deliver safe water by nature of their design and construction: piped supplies such as households with tap water or public stand-posts; and non-piped supplies such as boreholes, protected wells and springs, rainwater and packed or delivered water

A geographical focus: The 33 Water Game Plan countries

During the Millennium Development Goal (MDG) period, significant progress was made towards the target on drinking-water supply, with the MDG target for water being achieved in many countries. However, MDG efforts sometimes meant that too much of a focus went on helping those that were the easiest to reach – those that would improve the numbers quickly – and not necessarily on the most vulnerable. The JMP provided an updated snapshot of where the world's population stood on the drinking water service ladder as of 2017, which painted a mixed picture:[15]

- 5.3 billion people used safely managed services. An additional 1.4 billion used at least basic services. 206 million people used limited services, 435 million used unimproved sources, and 144 million still relied on surface water.
- Eight out of ten people who lacked even basic water services lived in rural areas. Nearly half lived in least developed countries.
- In 24 out of 90 countries with disaggregated data, basic water coverage among the richest wealth quintile was at least twice as high as coverage among the poorest quintile.



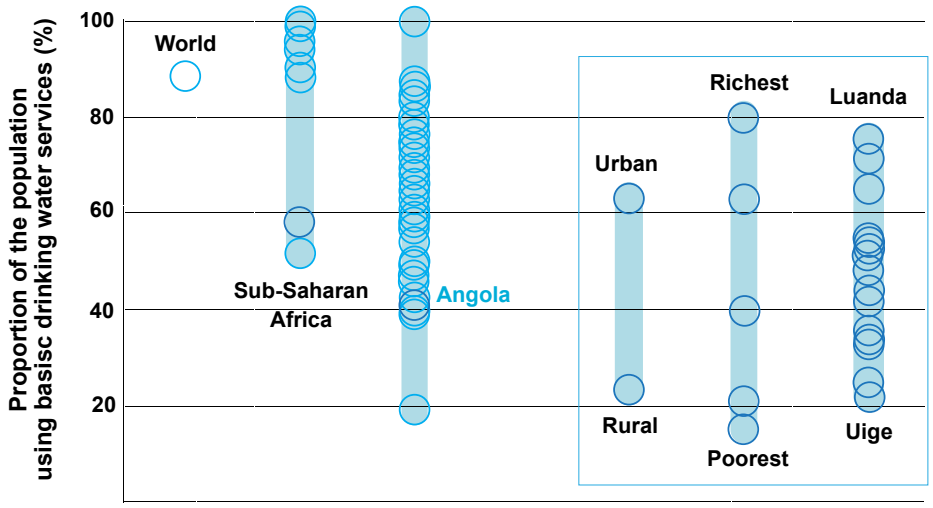
8 out of 10 people who lack even basic water services live in rural areas. Nearly half live in least developed countries

- 80 countries had more than 99 per cent basic water coverage. But only one in three countries with less than 99 per cent coverage were on track to achieve near universal coverage by 2030.

It is important to highlight that many countries fell into instability over the last decade, especially in the Middle East and North Africa region, and there has been an accompanying regression in attained service levels. The situation in most countries that have seen such instabilities remains unclear, due to ongoing conflict.

[15] UNICEF and WHO (2019). Progress on Household Drinking Water, Sanitation and Hygiene (2000-2017). JMP. Available here.

Figure 6: **Inequalities in basic drinking water (example for Angola)**



Source: JMP Progress on Drinking Water, Sanitation and Hygiene 2000-2017, and SDG baselines 2017

The figure below shows how inequalities exist not just between regions but also between countries – and even within the same country, between urban and rural, poorest and richest, and different district populations.

Regional analysis

Below is a brief situation analysis of progress from 2000 to 2017, and some potential future threats and challenges, by region.[16]

East and Southern Africa & West and Central Africa: There was progress made in the region, with access to basic drinking water rising from 46 per cent to 61 per cent between 2000 and 2017. However, use of surface and unimproved drinking water in rural areas was 13 per cent and 25 per cent respectively in 2017 – the highest figures for any region in the world. Urban water coverage rose slightly in the period, suggesting that coverage is barely keeping pace with population growth – perhaps not surprising as population growth in sub-Saharan Africa was the highest rate of any region for the same period.

The risks posed by climate change (particularly a warming and drying climate) gives rise to enormous challenges in this region to improving access to drinking water services that are resilient to climate and other shocks. Indeed, several studies point to a future decrease in water abundance due to a range of drivers and stresses. For example, all countries within the Zambezi river basin could have to contend with increasing water shortages from both climate and non-climate drivers (e.g. population and economic growth, expansion of irrigated agriculture, and water transfers). In eastern Africa, potential climate change impacts on the Nile basin are of particular concern, given the basin's geopolitical and socioeconomic importance.

Climate change impacts on groundwater will vary across climatic zones. The most affected areas will be those receiving mid-range rainfall rates (i.e. between 200 and 500 mm) per year, including the Sahel, the Horn of Africa, and southern Africa. There, a decline in groundwater recharge is expected; prolonged drought and other precipitation anomalies are also likely to become more frequent, particularly in shallow aquifers which respond more quickly than deep aquifers to seasonal and yearly changes in rainfall. Coastal aquifers are additionally vulnerable to climate change; as well as increased saltwater ingression from sea-level rise, high rates of groundwater extraction near the coasts can also lead to saltwater intrusion into freshwater aquifers, contaminating water supplies.

If climate change does drive increased drought conditions in Africa, stresses on groundwater delivery infrastructures will increase. Future development of groundwater resources

[16] Data considered by SDG regions (as per JMP reporting) has been adjusted/brought together for the UNICEF regions.

must address potential direct and indirect impacts of climate change, population growth, industrialisation, and expansion of irrigated agriculture – which will require much more knowledge of groundwater resources and aquifer recharge potentials than currently exists for the continent.[17]

South Asia: The region increased basic and safely managed access to water services from 81 per cent to 92 per cent between 2000 and 2017. Nevertheless, the region has a total population of over nearly 2 billion people, meaning that over 126 million people still use surface water or an unimproved water source. The majority of those people (102 million) are located in rural areas.

The impacts of climate change are likely to result in huge economic, social, and environmental damage to South Asian countries, compromising their growth potential and poverty reduction efforts. Countries in the greater Himalayas region – including Bangladesh, Bhutan, northern India, Pakistan, Nepal and Sri Lanka – are facing increased frequency and magnitude of extreme weather events, resulting in flooding, landslides, damage to water and sanitation infrastructure, and negative impacts on human health. At the other end of extreme weather events is a predicted increase in duration and intensity of droughts, particularly in the arid and semi-arid areas of Bangladesh and India. The coastal areas of Bangladesh, India, the Maldives, and Sri Lanka are at high risk from projected sea-level rise, which are likely to cause saltwater intrusion and the displacement of human settlements.

East Asia and Pacific: The East Asia region reduced unimproved access between 2000 and 2017 from 14 per cent to 5 per cent of the population. Rural unimproved access is the largest lagging factor in the region, and despite improving still stood at 11 per cent in 2017. Urban access to improved water remains high. However, in addition to complex water quality challenges, there is already evidence of frequent water shortages in the region. As this region has one of the fastest-growing rates of mega-cities and secondary cities, this represents a high threat to future drinking water access. The Pacific sub-region is showing the slowest progress in reaching at least a basic water service level, creeping up from 52 per cent in 2000 to 55 per cent in 2017. Reliance on surface water has actually increased from 26 per cent to 38 per cent during the period. With many countries severely affected by climate change, sea-level rise and saltwater intrusion, an increased focus on climate resilience and risk analysis will be critical to progress in the region. Freshwater resources are particularly important to the region because of the massive and growing population and a heavy economic dependence on agriculture. Water availability is highly uneven and requires assessment on a sub-regional scale because of the wide range of climates. In northern China, it is widely believed that water scarcity has been affected by three main factors; decreasing precipitation, doubling population, and increased water withdrawal.

Glaciers are important stores of water; any changes have the potential to influence downstream water supply in the long term. It has been calculated that glaciers on the Tibetan Plateau and the surrounding areas, and on Puncak Jaya, Papua, Indonesia lost between 9 per cent and to 80 per cent of their total area during 1895 to 2010, due to increased temperatures. Projected impacts of climate change on future water availability in Asia differ significantly between river basins and seasons.

In the Pacific, sea-level rise causes accelerated coastal erosion, saline water aquifer intrusion and increased flooding from the sea, with effects on human settlements. Freshwater resources for the region are also predicted to be seriously compromised as a result of a potential 10 per cent reduction in average rainfall by 2050.

Latin America and Caribbean: The JMP assessment showed continued good progress on drinking water in Latin American and the Caribbean, with 97 per cent of the region's population using at least a basic water source. Rural versus urban drinking water access represents the largest disparity, with rural access to at least basic service estimated at 88 per cent. However, the overall assessment of high levels of access in the region hides the fact that some countries have comparatively very low access (such as Haiti), and also masks disparities in access to water services for indigenous people and populations in the Amazon basin.

[17] Climate analysis adapted from the IPCC 5th Assessment Report. Available here.

Climate change-associated impacts in the region include altered precipitation patterns, an increase in heat extremes, a higher risk of drought, and increasing aridity. Moreover, the intensity and frequency of tropical cyclones is projected to increase, while sea levels are expected to rise by 0.2 to 1.1 mm per year, depending on actual warming levels. Tropical glacier volume is also predicted to decrease substantially, with almost complete deglaciation under high warming levels (though the much larger glaciers in the southern Andes are less sensitive to warming and shrink on slower timescales). Runoff is projected to be reduced in Central America, the southern Amazon basin and southernmost South America, while river discharge may increase in the western Amazon basin and in the Andes in the wet season. However, there is a marked uncertainty about the potential changes and threat levels in Latin America and the Caribbean overall, due to uncertainties in precipitation projections and differences in hydrological models.[18]

Middle East and North Africa: As with Latin America and the Caribbean, the Middle East and North Africa also showed progress between 2000 and 2017, with 92 per cent using at least a basic water service. With the region having the greatest concentration in the world of humanitarian needs related to increasing water scarcity and water quality challenges, access to water is becoming an additional, major threat to security and peace in the region.[19]

According to the latest assessments, the climate in the region is predicted to become even hotter and drier in most of the region. Higher temperatures and reduced precipitation will increase the occurrence of droughts, an effect that is already being seen in the Maghreb. It is further estimated that an additional 80 to 100 million people will be exposed to water stress by 2025. This is likely to result in increased pressure on groundwater resources, which are currently being extracted beyond the aquifers' recharge potential in most areas. In addition, agriculture yields, especially in rain-fed areas, are expected to fluctuate more widely, ultimately falling to a significantly lower long-term average. In urban areas in north Africa, a temperature increase of 1 to 3 degrees could expose 6 to 25 million people to coastal flooding. In addition, heatwaves, an increased 'heat island effect,' water scarcity, and decreasing water quality, are likely to affect public health, and more generally lead to challenging living conditions. Global models predict sea levels rising between

[18] Reyer C, et al. (2015). 'Climate Change Impacts in Latin America and the Caribbean and their Implications for Development'. In Regional Environmental Change, 17: 1601-21.

[19] UNICEF (2019). Water Under Fire: For Every Child, Water and Sanitation in Complex Emergencies. UNICEF. Available here.

around 10cm to 30cm meters by the year 2050, and around 10cm to 90cm by 2100. The social, economic, and ecological impacts of sea-level rise are expected to be relatively high for the Middle East and north Africa. Indeed, low-lying coastal areas in Tunisia, Qatar, Libya, UAE, Kuwait, and particularly Egypt are at particular risk.[20]

Country prioritisation

UNICEF is currently implementing WASH programmes in over 100 countries. While UNICEF will continue to support all countries based on regional country contexts and country offices' respective priorities, the Water Game Plan identifies 33 countries that have been prioritised for particular focus and support.

The main criteria used for identifying the 33 Water Game Plan countries is access to water supply, using figures for 'surface' and 'unimproved' levels of service, as estimated by the JMP. Thresholds for inclusion are consistent across regions (covering over 8 million people with no water service and/or 24 per cent or more relying on surface water or unimproved sources for water supply). Besides access figures, two other criteria have been factored in for inclusion in the priority countries: poor water quality based on geogenic water contamination (high levels of arsenic and fluoride), and the level of fragility/protracted emergency. Climate hazards have been assessed for all the priority countries, though such hazards have not been used as criteria to add additional countries to the list.[21]

It is estimated that the 33 Water Game Plan countries will require stronger support on technical aspects and resources, especially those countries that are most fragile and operating in more challenging and volatile environments. The list of countries will be used to prioritise advocacy initiatives, technical support and resource mobilisation efforts, on the basis that those countries will make the greatest contributions to achieving universal access to safe water by 2030, and the acceleration of access to safely managed drinking water services.

Based on JMP data, 82 per cent of the 579 million people estimated with 'no access' to water in 2017 live in the 33 Water Game Plan countries. The 33 countries also contribute to 80 per cent of UNICEF results in water globally.[22]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[20] Climate analysis adapted from the IPCC 5th Assessment Report. Available here.

[21] The climate assessment has been done using global ranking of countries affected by different climate hazards and is available at Annex 2.

[22] According to UNICEF results data for water in development contexts and durable solutions in humanitarian response as reported in the SMQs in 2019.

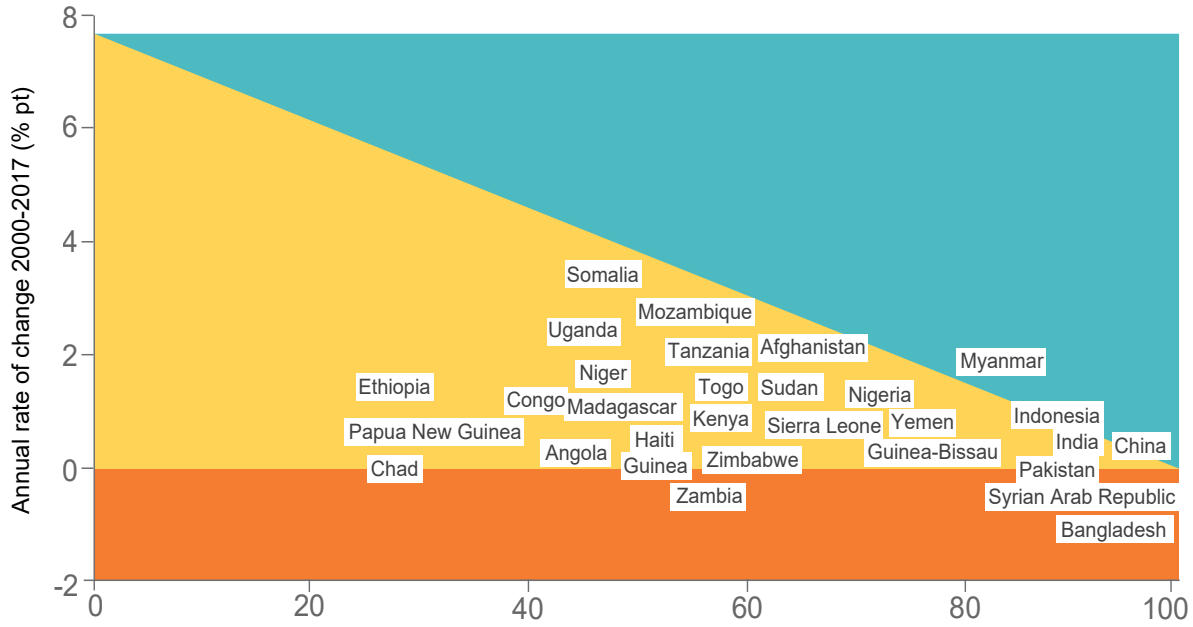
Table 2: **Access figures to different service levels, globally and in Water Game Plan countries**

	Population using respective service in 2017		
	Globally (million people)	**UNICEF's Water Game Plan countries** (million people and % of global total)	
Limited	206	156	76%
Unimproved	435	359	82%
Surface Water	144	116	81%
Surface + Unimproved	579	475	82%

The figure below shows that of the 33 Water Game Plan countries:

- Only five are on track to achieve universal access to basic water services;
- Current progress is too slow in 25 countries
- In three countries, the access levels to basic water services are decreasing

Figure 7: **Progress of Water Game Plan countries to achieve at least basic water services by 2030.**[23]



Population with basic drinking water services (%), 2017

Source: JMP UNICEF and WHO (2019)

The prioritisation of the 33 Water Game Plan countries does not mean that other countries with relevant water programmes will not be supported, or that the water programmes will not continue.

It should also be noted that in some geographical locations, UNICEF is in the process of transitioning from a service delivery intervention approach towards a more strategic advisory role. In all cases, UNICEF will continue to provide key leadership to the sector and remain a key WASH actor responding to emergencies and other developmental challenges.

The list of the Water Game Plan priority countries is presented in Table 3.

[23] Note that out of the 33 Water Game Plan countries, only 30 have estimates to assess progress for both 2000 and 2017. Central African Republic and Eritrea did not have sufficiently recent data to estimates basic services in 2017 and South Sudan did not exist in 2000. These three countries have been plotted in the figure using a) Central African Republic: 58% basic in 2016 (up from 46% in 2000); b) Eritrea: 52% basic in 2016 (down from 47% in 2000); c) South Sudan: 41% basic in 2017 (no change since 2011).

Table 3: **Water Game Plan priority countries (water services access figures are estimates for 2017, by the JMP)**

Water Game Plan country, area or territory	Population (thousands)	% urban	NATIONAL					Population without access (using surface or unimproved)	Proportion of population using improved water supplies						Priority because of poor access to water (over 24 % of Pop or over 8 million people with unimproved or surface water access)	Priority country because of water quality issues	Priority country because of fragile context/ protracted emergency	Water scarcity/high climate risks Remarks (no added countries)
			At least basic	Limited (more than 30 mins)	Unimproved	Surface water	Surface + unimproved		Safely managed	Accessible on premises	Available when needed	Free from contamination	Piped	Non-piped				
Afghanistan	35,530	25	67	3	19	11	30	10,574	-	38	-	-	22	49	x		x	x
Angola	29,784	65	56	10	19	15	34	10,181	-	37	31	-	41	25	x			x
Bangladesh	164,670	36	97	2	<1	<1	1	2,371	55	78	-	55	15	84		x		x
Central African Republic*	4,659	41	46	22	29	3	32	-	-	-	-	-	-	-			x	x
Chad	14,900	23	39	17	39	6	45	6,594	-	9	-	-	19	36	x		x	x
China	1,409,517	58	93	<1	6	<1	7	89,091	-	92	90	-	76	18	x			x
Democratic Republic of the Congo	81,340	44	43	12	36	9	45	36,446	-	8	-	-	32	23	x		x	x
Ethiopia	104,957	20	41	28	22	9	31	32,642	11	18	56	14	36	33	x	x		x
Eritrea*	4,955	39	52	18	13	17	30	-	-	34	-	-	52	18	x			x
Guinea	12,717	36	62	18	9	11	20	2,560	-	39	-	-	28	52			x	x
Guinea-Bissau	1,861	43	67	7	26	<1	26	493	-	30	-	-	-	-	x			x
Haiti	10,981	54	65	10	25	<1	25	2,744	-	10	63	-	23	52	x		x	x
India	1,339,180	34	93	<1	6	<1	7	87,862	-	63	82	-	44	50	x	x		x
Indonesia	263,991	55	89	1	8	2	10	24,398	-	54	87	-	18	72	x			x
Kenya	49,700	27	59	9	12	20	32	15,914	-	24	57	-	32	36	x			x
Madagascar	25,571	37	54	1	32	13	45	11,392	-	27	42	-	36	20	x			x
Mozambique	29,669	35	56	15	16	13	29	8,703	-	21	-	-	36	35	x			x
Myanmar	53,371	30	82	<1	9	9	18	9,727	-	55	-	-	25	57	x			x
Niger	21,477	16	50	15	31	4	35	7,485	-	17	49	-	33	33	x			X

Nigeria	190,886	50	71	7	15	7	22	42,101	20	24	69	23	11	67	x	X		X
Pakistan	197,016	36	91	<1	6	2	8	15,633	35	77	-	35	28	64	X	X		X
Papua New Guinea	8,251	13	41	2	6	51	57	4,700	-	22	-	-	18	25	X			X
Sierra Leone	7,557	42	61	9	16	14	30	2,282	10	16	49	10	25	45	X			X
Somalia	14,743	44	52	31	14	3	17	2,382	-	34	59	-	41	42			X	X
South Sudan	12,576	19	41	34	17	9	26	3,227	-	3	-	-	3	71	X		X	X
Sudan	40,533	34	60	27	4	9	13	5,287	-	38	84	-	46	41			X	X
Syrian Arab Republic	18,270	54	97	2	<1	-	<1	105	-	81	93	-	73	27			X	X
Togo	7,798	41	65	6	16	13	29	2,269	-	19	-	-	26	45	X			X
Uganda	42,863	23	49	32	12	7	19	8,221	7	7	71	50	21	60	X			X
United Republic of Tanzania	57,310	33	57	11	18	14	32	18,247	-	29	32	-	36	32	X			X
Yemen	28,250	36	63	29	4	4	8	2,247	-	49	58	-	48	44			X	X
Zambia	17,094	43	60	8	24	9	33	5,561	-	24	-	-	32	36	X			X
Zimbabwe	16,530	32	64	13	16	7	23	3,760	-	32	58	-	31	46			X	X

Note: *data from Eritrea and CAR corresponds to JMP 2016, the rest of countries correspond to JMP 2017 data*

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Implementing the Water Game Plan

UNICEF must use its convening power to help develop the strong national enabling environments that are of critical importance for building an effective water sector, to achieve the ambition of universal access to safe water by 2030, accelerate access towards safely managed water services, and ultimately deliver results for children. This will only be achieved through building strong collaborations and working closely with governments and partners. UNICEF will continue to work closely with partners such as the World Bank, UN agencies such as the United Nations Development Program (UNDP), the International Fund for Agricultural Development (IFAD), the Food and Agriculture Organization (FAO), as well as other valuable and respected partners such as the Stockholm International Water Institute (SIWI) and the Global Water Partnership (GWP), among others.

UNICEF water programmes are implemented in a wide range of contexts, including emergency and fragile settings, low- and middle-income countries, and covering a range of different sized programmes, from multi-country initiatives and sector-wide programmes to specialist medium- or small-sized programmes that focus on designing efficient and sustainable service delivery models for the sector to scale up. Because of such variety, UNICEF's approach to water programming must be built on strong national and sub-national analyses that lead to the implementation of the right solutions to the local context. International best practice can guide processes, but programmatic approaches must be context-driven and take into account the underlying causes (economic, social, political and environmental) that prevent progress.


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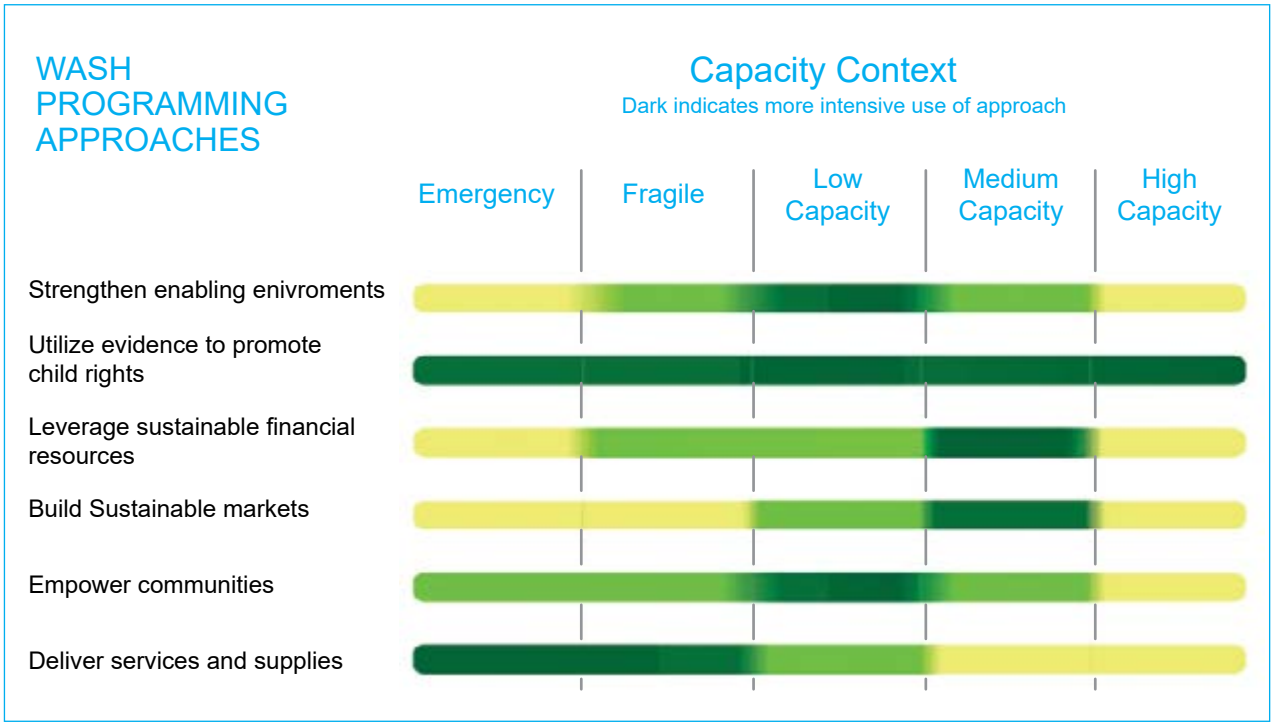
UNICEF's water programming must be guided by evidence-based and quality national and sub-national analyses and based on locally appropriate right solutions.

UNICEF has made available a set of tools[24] that facilitate such analysis, including the WASH Risk Assessment tool and the (upcoming) environmental and social risks screening tool. The UNICEF WASH Bottleneck Analysis Tool (WASHBAT) supports the sector to understand and overcome barriers to progress, enabling the development of costed and prioritised plans to remove the bottlenecks that constrain progress.

The UNICEF WASH Strategy 2016-2021 proposes different programmatic approaches to deliver results depending specifically on the sector's capacity context (see Figure 8). These approaches will need to be considered as potential paths for implementing the Water Game Plan.

[24] These are the UNICEF/GWP 'Strategic Framework for WASH Climate' website, available here, the 'Environment and Social Safeguards Screening Tool' (under process); and the WASHBAT portal, available here.

Figure 8: **WASH programming approaches for different capacity contexts**



Source: UNICEF (2016). Strategy for WASH (2016-2021)

Water safety and water quality

Moving from Basic to Basic+2 can appear relatively simple. But ensuring that water meets quality standards is not an easy task. Microbiological contamination is frequent at the source, and water can also be contaminated during distribution (e.g. through leakages in pipes), storage, and handling. Moreover, geogenic contamination is present and persistent in many locations. At least 140 million people in 50 countries are drinking water containing arsenic at levels above the WHO provisional guideline value of 10 µg per litre, and 200 million people drink water with concentrations above the 1.5 mg per litre guideline for fluoride.

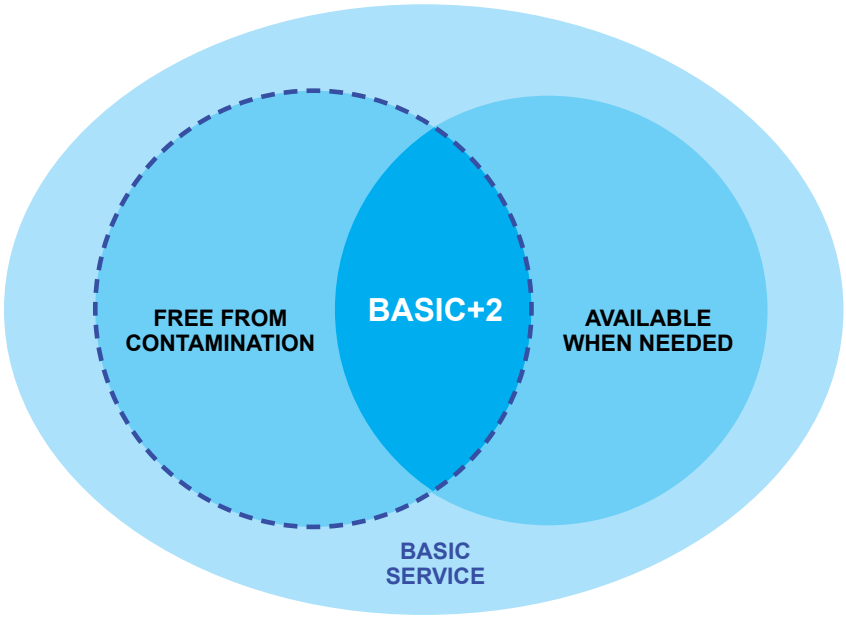
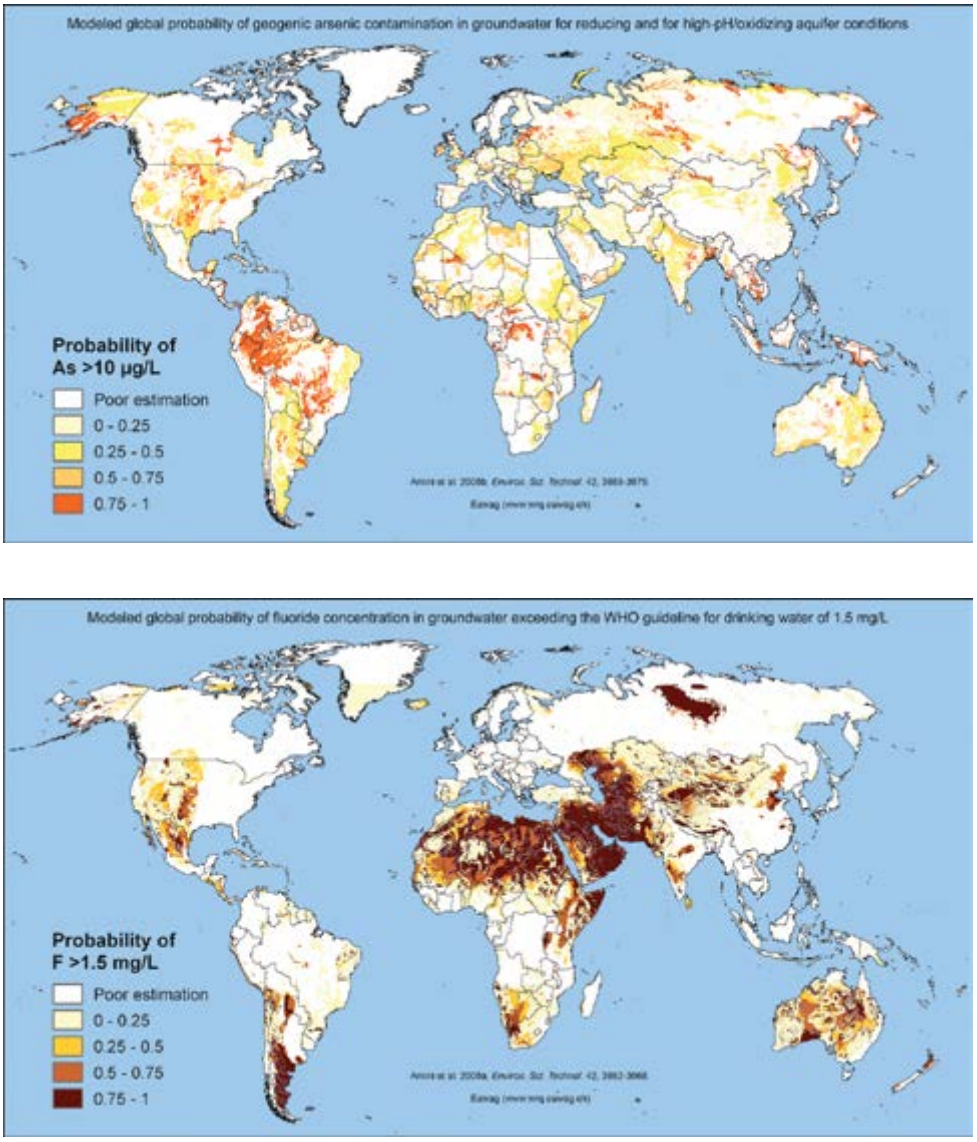


Figure 9: **Maps of probability of arsenic and fluoride in groundwater exceeding WHO guidelines**



Source: Amini et al. (2008) EAWAG[25]

[25] Amini, M.; Mueller, K.; Abbaspour, K. C.; Rosenberg, T.; Afyuni, M.; Møller, K. N.; Sarr, M.; Johnson, C. A. (2008) Statistical modeling of global geogenic fluoride contamination in groundwaters, Environmental Science and Technology, 42(10), 3662-3668. Available here.

Approaches to addressing quality standard issues include investments in water treatment technologies, innovation, supply chain strengthening, household water treatment and safe storage, or chemical removal (including use of reverse osmosis when technically and financially feasible). Beyond that, the more professionalised and closer the water service is to the user, the lower the risk of pollution will be. Therefore, an effective way to address water quality concerns, is by ensuring higher levels of service. Those will likely be associated to a service model that provides treatment on a continuous basis.

Water safety plans (WSPs) will continue to play a key role in identifying and addressing barriers to water quality, following guidelines that WHO have developed for both urban and rural contexts.[26] Further guidance is also available on how to develop climate resilient WSPs, by reinforcing the assessment of climate hazards in the WSP risk assessment methodology.

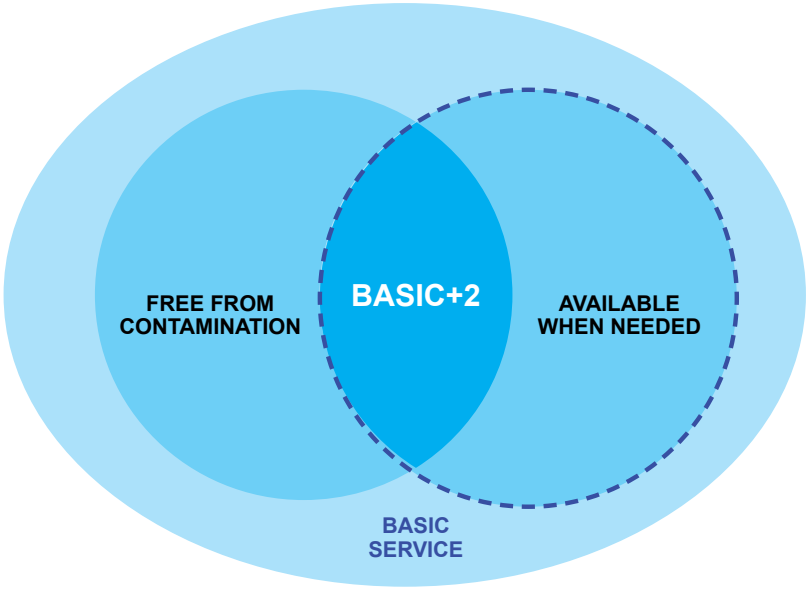
UNICEF water programmes will continue supporting JMP in the collection of water quality data. This must include strengthening national water quality monitoring systems; as of 2017, only 117 countries even had estimates for safely managed water services, because of a lack of national water quality data.

In some contexts, UNICEF will need to support the development of master plans in large urban contexts, for example, by providing technical assistance to optimise water and wastewater treatment plants, strengthening supply chains for treatment products (e.g. chlorine distribution), or by supporting local markets.

Sustainability of water services

Both research and practice have shown it is clear that achieving sustained universal coverage will require more than building water infrastructure and increasing access to services. Understanding how services are maintained over time needs to be at the heart of all water sector systems, at all levels; from local community interventions to wider national service delivery, including improving the enabling environment for water services. While governments ultimately bear the duty of guaranteeing the right to an adequate water supply for all, all stakeholders at all levels of the WASH service chain have a responsibility to address possible barriers to sustainability. This will include identifying, challenging and tackling barriers that may be deeply rooted in the national governance system.

[26] WHO resources on water safety planning are available here.



UNICEF´s sustainability framework[27] sets out example experiences, tools and programming options at community, service and sector levels that may be helpful, including:

- Professionalisation of the sector as a way to both achieve and maintain gains in the water services provided.
- Establishment of more sustainable water management models beyond community-based management. For instance, using clustering systems to benefit from economies of scale, professionalising the management through the establishment of delegated entities operating as a small utility, or linking the rural water supply management to larger urban utilities that can provide technical and managerial support.
- Development of innovative service delivery models, including scaling up successful models that prove to be appropriate to the local contexts, and adjusting some aspects of existing models to make them more sustainable, over time.

Systematically monitoring sustainability of the water sector, at national and sub-national levels, helps to identify and address barriers and increase the accountability of service providers. UNICEF´s support to the development of sustainability frameworks, including the introduction of regular sector-wide sustainability checks, compacts, and sustainability strategies (or similar) helps to solidify agreement on commitments to sustainability in water service delivery. Monitoring sustainability also plays a key role in both planning and upholding accountability mechanisms; robust and validated sustainability indicator frameworks are a core component of monitoring. However, effective collection of information and the use of that data requires adequate capacity and coordination by all institutions involved for it to be useful. Such information must be gathered, analysed, and the presented in different ways for different audiences, to ensure it can be used in the most effective way for decision-making. UNICEF should continue to push for effective sustainability checks to be conducted, and for the results to be used to adapt water programming strategies.

Shifting to climate-resilient WASH programming

With a growing body of evidence showing that the most vulnerable will be the hardest hit by climate change, and that investments may get lost if no action is taken, the international community is paying increased attention to approaches that mitigate greenhouses emissions and adapt to climate change impacts.

In 2017, UNICEF and partners developed the Strategic Framework for WASH Climate Resilience Development and supporting guidance. On the basis of the framework, UNICEF WASH is now committed to shift its programming to becoming a global climate-resilient WASH programme by 2021, contributing to the reduction of emissions wherever possible, and ensuring a green expenditure of around US$1 billion per year,

[27] UNICEF/SIWI 2018 Programming for sustainable WASH services -A framework. Available here.

through programming activities in more than 100 countries.

The objective of the shift to climate-resilient WASH programming is threefold:

1. Ensuring that WASH infrastructure, services and behaviours are **sustainable, safe and resilient to climate related risks.** This goes hand in hand with the sustainable use, protection and management of surface and groundwater resources, and resilient waste management.

2. Ensuring that resilient WASH programmes contribute to building **community resilience** to adapt to the impacts of climate change. To achieve this, inequalities in service provision that disproportionately expose vulnerable groups to climate threats or restrict their capacity to respond effectively, need to be addressed first. Further WASH contributions to community resilience can be achieved through capacity development and by fostering income generation, food, energy and ecosystem resilience.

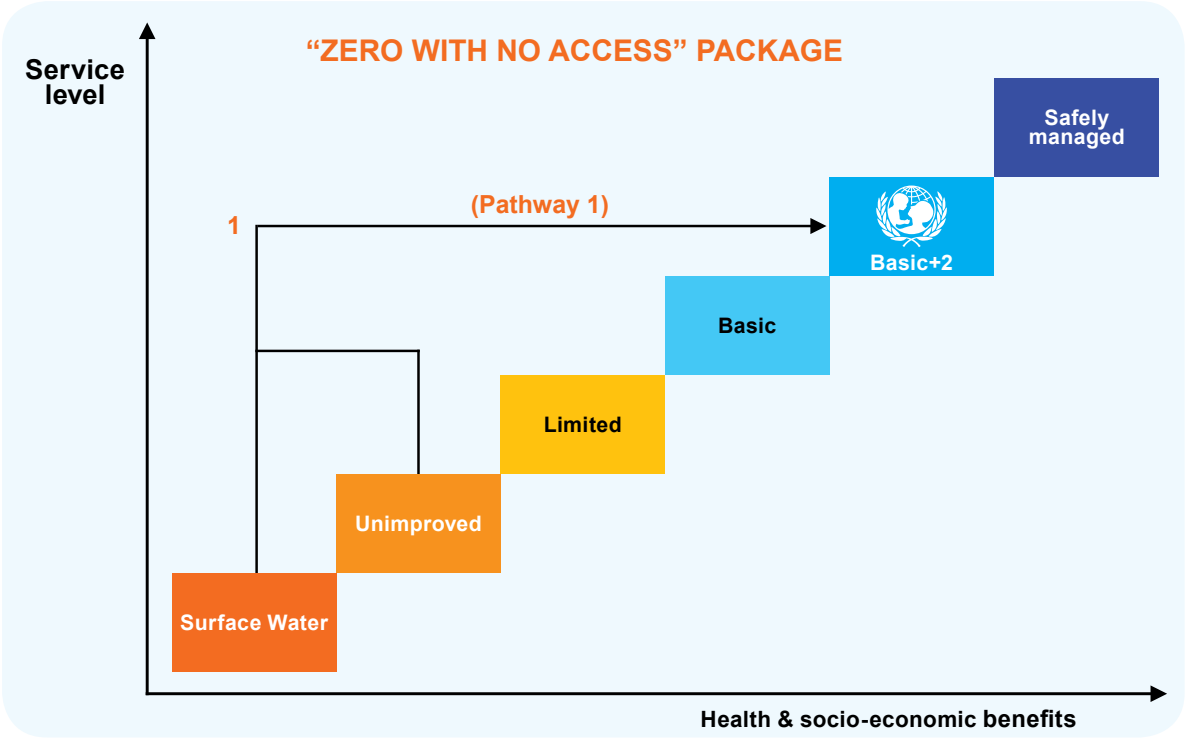
3. Working towards a **low-carbon** WASH sector by improving water and energy efficiency and ensuring, where possible, the use of renewable energy for water and sanitation operations to lower Green House Gases (GHGs) emissions, and energy generation from waste.[28]

This shift needs to happen while focusing on equity across WASH programmes, so that equity is systematically addressed by governments and WASH sector partners as part of their climate action planning. The guidance that accompanies the strategic framework, as well as further specific technical guidance, are available to help UNICEF regional and country offices consider how to make and complete the shift to climate-resilient WASH programming.

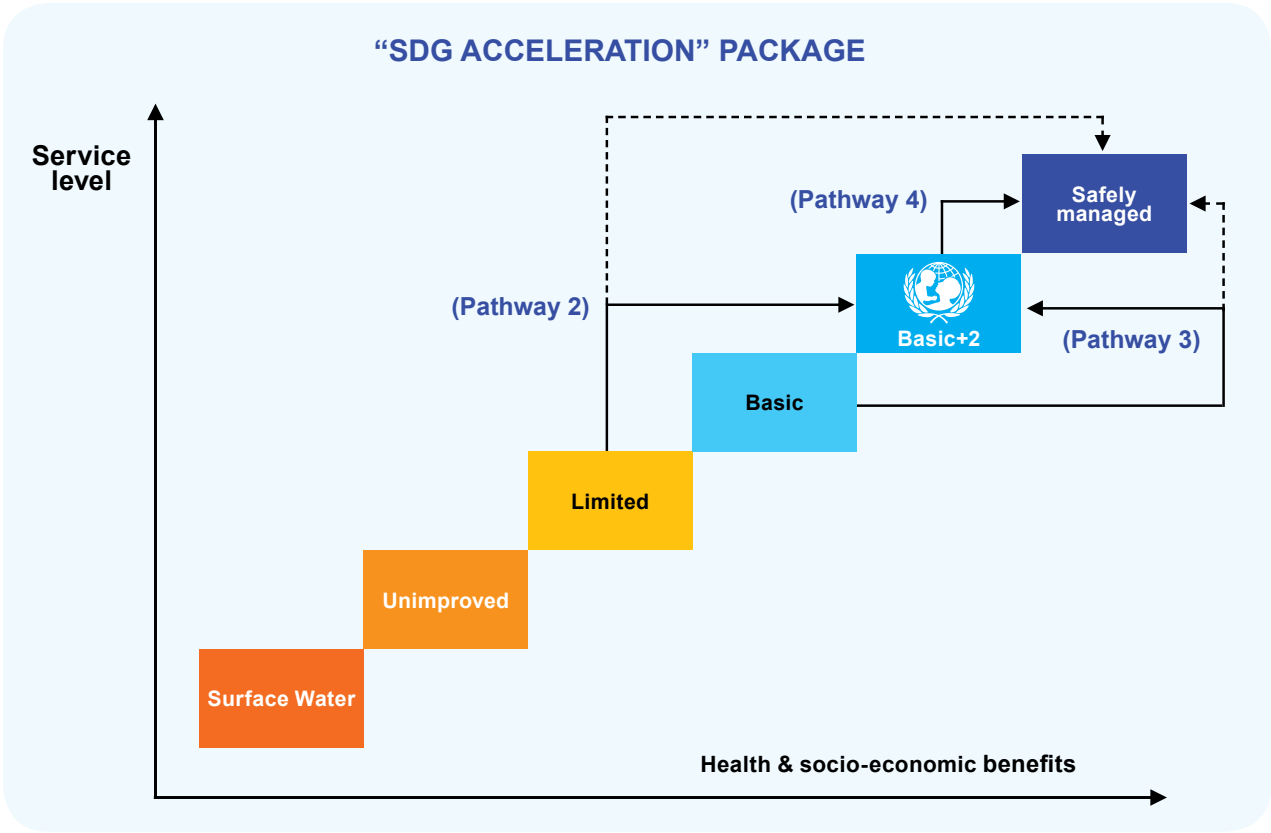
The Water Game Plan's programmatic pathways

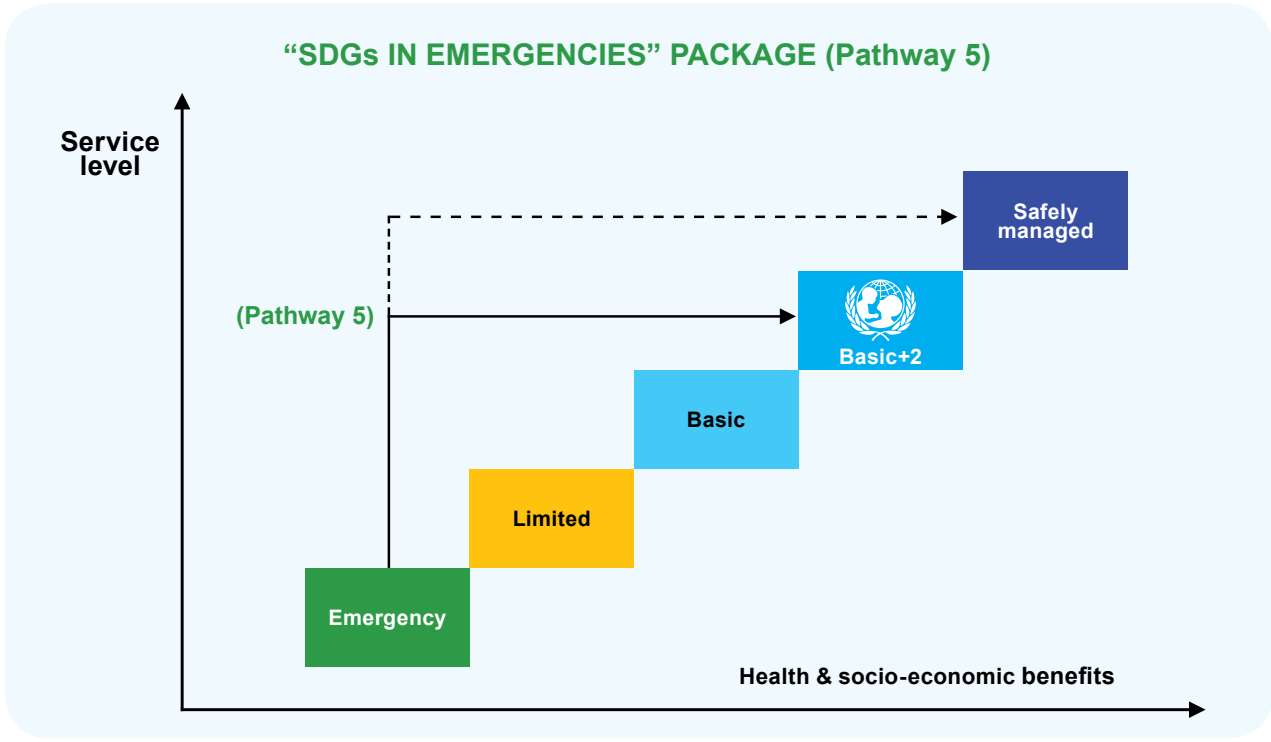
Programmatic pathways for implementing the Water Game Plan will vary in each country, depending on the capacity context and on current service levels. Countries with high rates of access from unimproved sources will seek to make progress by moving sizeable proportions of the population from 'surface' and 'unimproved' access towards Basic+2 services. Countries with higher water service levels will want to move towards near-universal Basic+2 access, and a proportion of safely managed services, by addressing the main challenges and bottlenecks that prevent progress into those levels. The Water Game Plan identifies five potential programmatic pathways, and these are set out below:

Figure 10: **UNICEF Water Game Plan packages and respective pathways**



[28] Carbon neutrality, or having a net zero carbon footprint, refers to achieving net zero carbon dioxide emissions by balancing carbon emissions with carbon removal or simply eliminating carbon emissions altogether.





Regardless of which pathway a country programme prioritises, water safety, sustainability, and climate resilience (risk-based approaches) must be addressed, working through system strengthening and enabling environment. It should also be noted that the prioritisation of one particular pathway (e.g. moving from 'surface water' towards 'Basic+2') does not exclude the implementation of other pathways (e.g. moving towards safely managed). That will depend on the context and the role UNICEF plays in each country.

The Water Game Plan assembles the five programmatic pathways into three packages, which are described below.

Zero with No Access package (MDG unfinished business towards Basic+2)

Pathway 1: From Surface/Unimproved service to Basic+2

Country programmes which are moving from a low service-level (unimproved sources, or no service at all) to improved, resilient, sources within 30 minutes round trip, free from contamination and available when needed.

Contexts in which this pathway is implemented are low-income countries, which might also be fragile states or countries under sanctions. They are likely to have large populations without access to WASH services, low government investment and poor governance frameworks supporting work towards the SDG targets. Countries with large populations and dispersed rural villages should give priority to this pathway. The immediate priority in such contexts will be to ensure first that those with no service (i.e. using surface water directly), or using unimproved sources have access to at least a Basic+2 level of service, as those are the most vulnerable. Countries predominantly following Pathway 1 will also need to work on Pathway 2 and Pathway 3 if they are to achieve universal Basic+2 water services by 2030. It would also be desirable indeed if Pathway 1 to achieve Zero with no access[29] materialises before 2030, while progress continues towards the SDG target of universal access to safely managed water supply.

The impacts of climate change need to be assessed from the outset of implementation of Pathway 1, to make sure that any new, repaired or upgraded water services are adapted for climate resilience and to foster community climate knowledge and preparedness.

	Surface water	Unimproved		Basic+2	Intervention modalities
Source	Directly from a river, dam, lake, pond, stream, canal or irrigation canal	From an unprotected dug well or unprotected spring	»	Improved[30]	Develop improved water sources, aiming to achieve the highest possible level of service that will ensure sustained access, and which is resilient to the impacts of climate change or other shocks and stresses.
Accessibility				Accessed within a round trip of 30 minutes, including waiting	Ensure the water points are as close as possible to the users and meet the criteria of 30 min (round trip including queueing).
Quality				Free from contamination (bacteriological and priority chemical contamination)	Through a service delivery model that ensures treatment for water points (e.g. chlorination in the water tank, or removal of geogenic contamination), to ensure water quality standards are met. Implement water safety plans, including barriers to prevent contamination of water at the source, at point of fetching, and during transportation and storage.
Availability				The service is available when needed (i.e. sufficient water in the last week or available for at least 12 hours per day)	Scale up sustainable service delivery models, and strengthen service management (e.g. by supporting professionalisation of the operation and maintenance of the service). Shift to climate-resilient water services.

[29] 'Zero with No Access' means zero people are deemed to have no service at all, and no one depends on water directly from surface or unimproved water sources.

[30] Improved sources are systems that have the potential to deliver safe water by nature of their design and construction. This means piped supplies such as households with tap water or public stand-posts, and non-piped supplies such as boreholes. While protected wells, protected springs, rainwater, packed and delivered water are also part of the 'improved' JMP category, UNICEF only recommends these as options for improvement in exceptional cases, and consider instead upgraded levels of service that will ensure consistent water quality, sustainability and resilience.

SDG Acceleration package

Pathway 2: From Limited to Basic +2 (or Safely Managed)

Improved, resilient sources have already been prioritised, however collection times exceed 30 minutes round trip, and/or water is not safe for drinking, and/or availability is not guaranteed when water is needed (e.g. because of a high level of non-functional water points).

Pathway 2 programmes would follow similar approaches as in Pathway 1; however, they would further emphasise strengthening the enabling environment, public financial management systems and private sector strengthening, to develop and implement appropriate service delivery models that can get services closer to the population. Programming might include moving from community management models, building on small-scale private operators and utility-based sustainable service provision, following a business model approach, to encourage investments in upgrading systems.

The impacts of climate change need to be assessed from the outset of implementation of Pathway 2, to make sure that any new, repaired or upgraded water services are adapted for climate resilience and to foster community climate resilience.

	Limited		Basic+2	Intervention modalities
Source	Improved		Improved	No action needed (unless required to upgrade the system).
Accessibility	Collection time exceeds 30 minutes for a round trip, including queueing		Accessed within a round trip of 30 minutes, including waiting	Extend the number of water points to increase proximity to the community, expansion of water services, or upgrade from single source to piped systems.
Quality		»	Free from contamination (bacteriological and priority chemical contamination)	Through a service delivery model that includes water treatment (e.g. chlorination in the water tank, or removal of geogenic contamination), to ensure water quality standards are met. Implement water safety plans, including barriers to prevent contamination of water at the source, at point of fetching, and during transportation and storage.
Availability			The service is available when needed (i.e. sufficient water in the last week or available for at least 12 hours per day)	Scale up sustainable service delivery models, and strengthen service management (e.g. by supporting professionalisation of the operation and maintenance of the service). Shift to climate-resilient water services.

Pathway 3: From Basic to Basic +2 (or Safely Managed)

There are medium to high levels of coverage and improved sources currently available, for which collection times are within 30 minutes for a round trip. Action to improve water quality and sustainability are needed.

At this point of water service provision, additional system strengthening efforts are needed to improve water quality (i.e. must be free from faecal and priority chemical contamination), and availability (water has to be available when needed, therefore including aspects of sustainability). Pathway 3 may be implemented in contexts with existing basic service levels, strong governance elements, and where domestic financing is gaining prominence over overseas development assistance (ODA). Pathway 3 might also be applicable in contexts with some access to Basic+2 services, but where water quality monitoring systems are not in place (or where water quality and longer-term sustainability information is not readily available).

Where a large proportion of the population use water that is not compliant with quality standards (chemical or bacteriological), communities often do not trust the capacity of public utilities to deliver safe water. They are therefore likely to rely on other water sources – even if that means paying higher fees. This can push up prices for safe water, undermining the capacity of the most vulnerable groups to access safer water sources. In these situations, the sector lacks the right policies, strategies, or capacity to introduce adequate tariff systems, compromising potential system upgrades and leaving the sector reliant on transfers or taxes.

In urban settings, the lack of adequate water treatment or contamination along distribution systems (e.g. due to leakages), can compromise water quality at the point of consumption. In these contexts, water safety programming can help meet established standards. This includes a holistic risk management approach along the supply chain, with barriers in place to prevent water sources from contamination.

In systems at risk of water contamination and/or with inadequate service delivery models in place, it will be necessary to look at effective ways of improving management. Potential activities would include introducing water safety plans (WSPs) that help identify risks and prevent contamination. In contexts where water is scarce, water treatment and reuse might be considered as an option to move up the service level ladder.

In order to meet the definition of a 'Basic+2' water service, water must also be available when needed. In contexts with good levels of basic service access, but where sustainability is a recurrent challenge, communities may often be forced to shift to using alternative, unimproved water sources. In these cases, programmatic approaches to improving enabling environments should be considered. This can include support to develop appropriate policies, set tariff systems and deploy efficient and resilient management models. Attention should also paid in cases where strong disparities between coverage levels (administrative data) and usage (household level data) are detected.

Increasingly, the challenges related to sustainable water service delivery are connected to the impacts of climate change (e.g. a lack of water availability during droughts, or disruption to services after flooding). The impacts of climate change need to be assessed from the outset of implementation of Pathway 3, to make sure that any new, repaired or upgraded water services are adapted for climate resilience and to foster community climate knowledge and preparedness.

	Basic		Basic+2	Intervention modalities
Source	Improved		Improved	No action needed (unless required to upgrade the system).
Accessibility	Accessed within a round trip of 30 minutes, including waiting		Accessed within a round trip of 30 minutes, including waiting	No action needed (unless required to upgrade the system).
Quality			Free from contamination (bacteriological and priority chemical contamination)	Through a service delivery model that includes water treatment (e.g. chlorination in the water tank, or removal of geogenic contamination), to ensure water quality standards are met. Implement water safety plans, including barriers to prevent contamination of water at the source, at point of fetching, and during transportation and storage.
Availability			The service is available when needed (i.e. sufficient water in the last week or available for at least 12 hours per day)	Scale up sustainable service delivery models, and strengthen service management (e.g. by supporting professionalisation of the operation and maintenance of the service). Shift to climate-resilient water services.

Pathway 4: From Basic+2 to Safely Managed water supply

Moving from improved systems where water is available when needed and is free from contamination (Basic+2) to 'safely managed' water supplies.

Safely managed drinking water is defined as an improved drinking water source that is 1) located on premises; 2) available when needed, and; 3) free from faecal and priority chemical contamination.

The JMP is able to produce country estimates on 'safely managed' water services if data is available at least for two out of the three indicators, one of which has to be indicator on water safety. Then, the JMP calculates the population using safely managed drinking water services based on the minimum value of the indicators considered.

The focus of Pathway 4 is to make water available on premises, located within the dwelling, yard or plot, as the other two parameters are already addressed with the achievement of basic+2 services.

Pathway 4 can be implemented in various contexts, but is likely to be prioritised in middle- or higher-income countries where basic+2 service level is already high, but where coverage for safely managed water is not yet universal. This is considering that basic+2 is not a necessary intermediary step to move to safely managed as indicated in the other pathways. Challenges moving water coverage to being safely managed include a lack of appropriate policies, inequitable or inappropriate tariff systems, business models or incentives to enable the scale up of household connections, and the additional capital and O&M costs of household connections.

In countries implementing Pathway 4, UNICEF should work with programmatic approaches designed to improve enabling environments. This can include support to develop appropriate, pro-poor policies and tariff systems, and to design efficient and resilient management models. Sustainable business models and plans that consider how to achieve full cost recovery, or a mix of revenues and subsidies, are paramount to ensure the long-term sustainability of water services. The regulation of management models is also important to consider in this pathway, given the global trend to increase the role of the private sector in rural and peri-urban water supply, and new innovative models such as the 'Build-Capacity Build-Transfer' (BCBT)[31] model introduced by UNICEF.

As part of Pathway 4, UNICEF will also provide support to strengthening national monitoring systems, ensuring that service levels are monitored beyond any programme implementation, as part of national and sub-national monitoring and evaluation systems. This might include support to national monitoring systems that set up an effective way to monitor real-time service delivery and water quality, including sustainability factors such as, for example, functionality of water points, reliability/continuity of the service, catchment and water resources protection, or affordability.

As for Pathways 1, 2 and 3, UNICEF's shift to climate resilient WASH programming means the impacts of climate change need to be assessed from the outset of implementation of Pathway 4, to make sure that any new, repaired or upgraded water services are adapted for climate resilience and to foster community climate knowledge and preparedness.

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Pathway 5: In Emergency contexts to Basic+2 / Safely Managed

Improving water systems in protracted crisis, or later stages of an emergency contexts, towards safely managed services.

More than half of UNICEF water programmes are implemented in emergency contexts. A growing number of humanitarian emergencies occur in fragile contexts and are protracted, meaning that longer-term approaches are necessary to address the underlying causes of fragility and vulnerability. Indeed, the humanitarian-development nexus discussions over the last few years have highlighted the opportunities that the reconstruction phases of an emergency (natural disaster or post-conflict) can bring to support access to higher and more sustainable levels of services, rather than just meeting humanitarian standards. The same applies to protracted crises. Moreover, preventing water systems from deterioration and collapse in protracted crises must be a major priority of humanitarian responses, closely connected to sustainable development projects.[32] Indeed, several economic analyses show that building piped water distribution systems is more cost-effective than water trucking to refugees and internally displaced persons (IDPs). The nexus between emergency and development implies reinforcing resilience and disaster risk-reduction elements to prevent crisis, and also to consider building back better principles, including longer-term and more durable solutions in emergencies.[33]

Pathway 5 means aiming to achieve basic+2 or safely managed water services. This is already increasingly happening; in 2019 almost half of UNICEF beneficiaries in emergency responses were afforded access to durable and longer-term water services.

Pathway 5 programming must observe the Core Commitments for Children in Humanitarian Action – the CCCs – which represent UNICEF's central policy to uphold the rights of children affected by humanitarian crisis. The CCCs were initially developed in 1998, and revised in 2010 and 2020. They promote predictable, effective and timely collective humanitarian action, and clearly outline the areas in which UNICEF can best contribute to results.

In a first phase of an emergency response, UNICEF will continue supporting life-saving water service interventions (e.g. water trucking), but with a vision to increase longer-term sustainability and service levels. Pathway 5 aims to maximise the opportunity to build sustainable services (i.e. to build back better) that emergency situations can present, providing Basic+2 or safely managed services during and after crisis, thereby contributing towards a wider humanitarian-development-peace nexus. Pathway 5 should also include consideration of a variety of risks for water programming – for example those linked to the fragility context, water scarcity, climate change, and (where appropriate) urbanisation and population growth.

UNICEF will continue to play a key role in relation to epidemics (outbreaks) and health emergencies. The UNICEF Cholera Toolkit for WASH outlines the different tools and approaches used to address cholera and other water-borne disease-related outbreaks. As UNICEF has demonstrated, efforts and funding for the prevention of disease and early response to outbreaks, including improving water quality and improving access to WASH in healthcare facilities, have a direct return on investment in terms of healthcare savings.[34]

[31] A learning note of the Build Capacity Build Transfer (BCBT) model developed in Ethiopia is available here.

[32] UNICEF (2019). Water Under Fire: For Every Child, Water and Sanitation in Complex Emergencies. UNICEF. Available here.

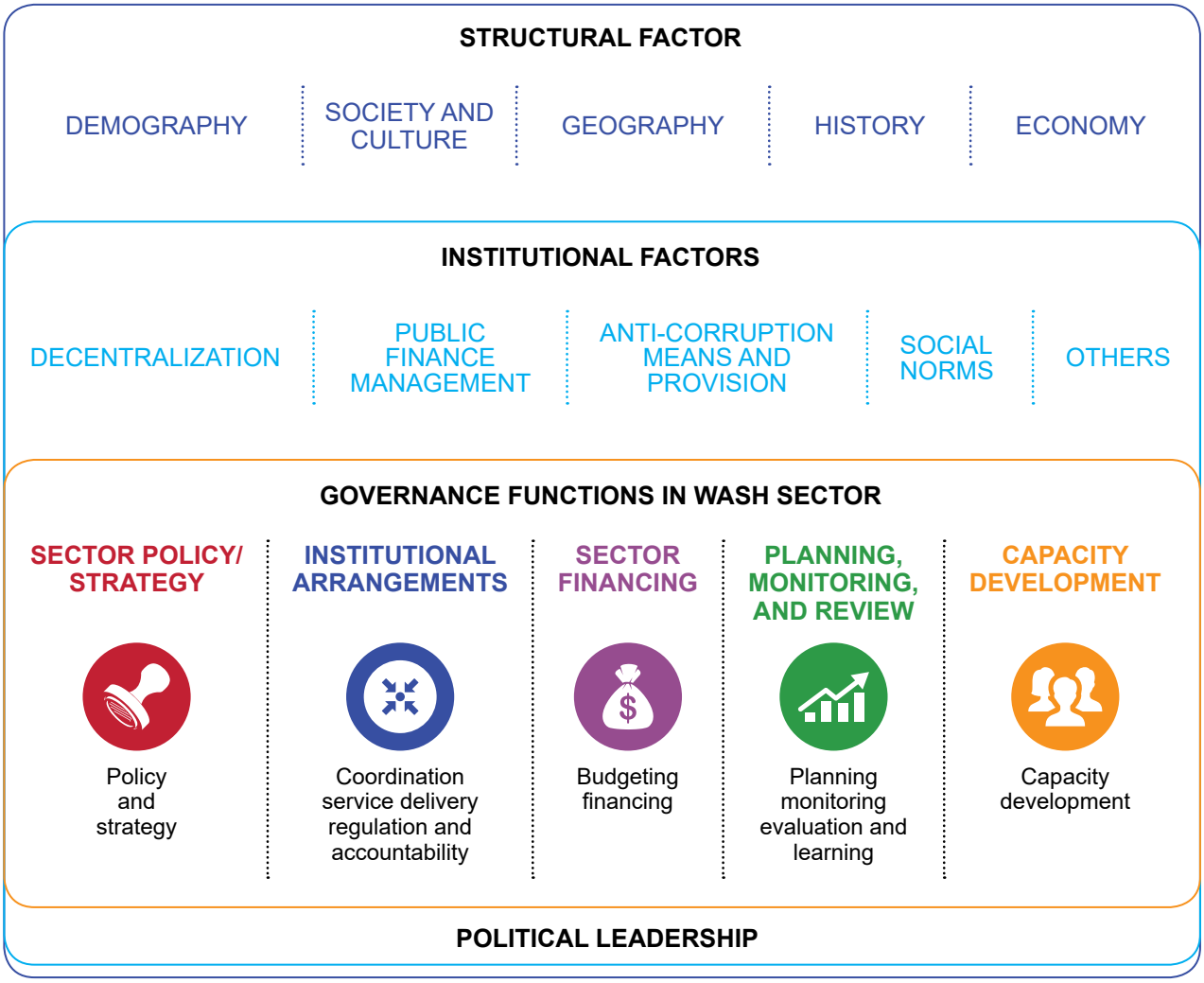
[33] Further guidance can be found in UNICEF'S Water Under Fire Volume 1: Emergencies, development and peace in fragile and conflict-affected contexts. UNICEF. Available here.
In addition, UNICEF'S Conflict Sensitivity and Peacebuilding Programming Guide is a useful tool for UNICEF field staff and leadership to understand, situate and operationalize conflict sensitivity and peacebuilding. Available here.

Enabling environment and systems strengthening

The SDGs cannot be achieved without an emphasis on systems strengthening and stronger focus on the enabling environment. The UNICEF governance framework for WASH incorporates the five Sanitation and Water for All Building Blocks: policy and strategy; institutional arrangements; sector financing; planning, monitoring and review; and capacity development. These should be assessed systematically in countries, through internal exercises such as situation analyses, the strategic moment of reflection, and annual planning, as well as through external exercises such as the use of the WASH bottleneck analysis tool (WASHBAT). The aim should be to determine which building blocks are a priority for UNICEF (and partners) to work on within each country context, to achieve the maximum possible acceleration of progress for the sector.

[34] Further guidance in the GTFFC's Ending Cholera: A Global Roadmap. Available here.

Figure 11: **UNICEF's enabling environment framework for WASH**



Source: *UNICEF/SIWI 2018 Programming for sustainable WASH services -A framework.*

Some of the programme approaches that countries might consider for all pathways include:

- Gathering available evidence on the country priorities for the sector, and the benefits of investing in sustainable WASH services, developing sector policies that address these identified needs and set the right targets. Enabling environment approaches might include addressing water demand, water consumption, tariff setting, the introduction of subsidies, and enhancing efficiency/performance of utilities.
- Identifying key sectoral bottlenecks by using WASHBAT and accountability mapping, and by looking at whether decentralisation might help the sector to deliver more efficiently on water services. Often, decentralisation in the WASH sector has a beneficial impact on capacity to monitor and sustain services, collect tariffs in a transparent way, and having efficient accountability models.
- Working with public financial management (or 'PFM') systems to ensure they are able to quickly and efficiently mobilise large amounts of public funding, allowing for appropriate targeting and increasing sector efficiency, helping to make water services more affordable for the poorest.
- Exploring working with the private sector, including through PPPs (public-private partnerships), to develop scalable methods for water service provision,

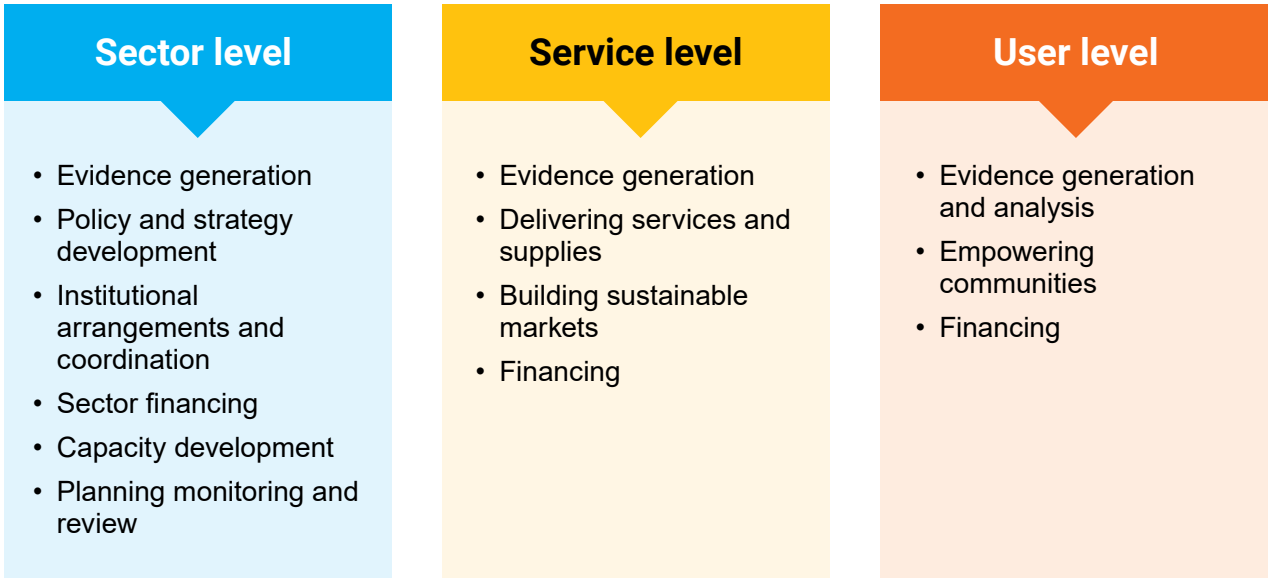
and to demonstrate specifically how extending service delivery to underserved communities can be viable. In the context of fragile states, this may be more challenging as there are fewer incentives and security for private sector investment. However, it is important to foster viable business models that ensure sustainability in remote rural areas, while at the same time developing the enabling environment for private business to invest and operate.

- Ensuring that risk analyses and risk-informed management are applied, to uphold water quality and water security, and to consider aspects of water demand management where needed.

Addressing rapid urbanisation

Urban populations are growing faster than rural populations. The urban population is rising by around 220,000 people every day. By 2030, approximately 60 per cent of the global population – or 5.2 billion people – are projected to live in urban areas. The rate of increase is likely to mean significant service backlogs in many small towns, peri-urban areas and informal settlements which already receive insufficient attention and support. Many challenges for water service delivery in urban areas are different to those presented in rural areas. The primary focus of UNICEF support for water services in urban areas should be to promote equitable and affordable access, through the extension of services to the poorest and most marginalised children and their families. The UNICEF Global Framework for Urban WASH was published in 2020 and outlines ways that UNICEF WASH programmes can intervene in various urban contexts. The framework sets out three areas of support for urban WASH programming; sector-level, service-level and user-level support, with priority activities and entry points for each area of support.

Figure 12: **Priority activities and entry points as per UNICEF's Global Framework for Urban WASH**



Source: *UNICEF (2020).* Global Framework for Urban WASH

Water in institutions, as part of water services delivery models

The JMP reports with a focus on WASH in schools and in healthcare facilities (HCF) published in 2019[35] reveal significant gaps in access to water services in these institutions.

Indeed, in 2018 the JMP WASH in schools report[36] estimates that only 69 per cent of schools worldwide provide a basic drinking water service, defined as an improved source with water available at the time of the survey. This means that nearly 570 million children lack access to a basic drinking water service in their school. The JMP also reported that 19 per cent of schools globally were deemed either only to have access to an unimproved source, or to have no water service at all.

The situation for healthcare facilities is not much better. The report found one in four facilities lacked a basic water service – a long way off the global 2022 target of having 60 per cent of all healthcare facilities with access to at least a basic water service[37].

Potential areas for helping to improve and sustain WASH services in health care facilities and schools are:[38]

1. Conducting a situation analysis and assessment – perhaps including the WASHBAT, which has modules customised for WASH in institutions
2. Setting targets and defining a roadmap to achieving improved services
3. Supporting the establishment of national standards and accountability mechanisms
4. Improving infrastructure, as well as systems for operation and maintenance
5. Monitoring and reviewing data effectively
6. Developing the capacity of institutions' workforces
7. Engaging communities
8. Conducting operational research and sharing learning

Given that national budgets and international aid funding are often extremely limited for WASH in institutions, UNICEF programmes should advocate to link the provision of WASH services in schools and healthcare facilities with the wider WASH service models that exist in the communities they belong to. This should include operation and maintenance, including the integration of those O&M services as part of the community's wider water services. WASH interventions in schools and healthcare facilities should be coordinated with local/national education and health sectors, and will require strong partnerships with WHO, other UN agencies and sector partners.

Considerations on equity, gender and youth engagement

Equity – leave no one behind

Leaving no one behind is one of the key commitments of the Agenda 2030 for Sustainable development, and – as stated in the 2015 UN General Assembly resolution – aims to end absolute poverty, reduce inequalities and address discriminatory practices. UNICEF's interventions in the water sector should always consider the specific needs of the most marginalised and vulnerable groups, including children, youth, persons living with disabilities, people living with HIV, older persons, indigenous peoples, refugees, internally displaced persons and migrants.

Key roles of UNICEF to consider equity in water programming include:

- Monitoring major inequalities, in particular ensuring that data is disaggregated in ways that contribute to visualising inequalities;
- Identifying how inequality affects the life chances of children and water users;
- Understanding the causes of inequity, including overt and implicit discrimination, historic deprivations, economic structures and developments, the distribution of public expenditures and ecological changes;

[35] JPM WHO/UNICEF 2019 WASH in health care facilities. Global baseline report 2019, Available here.

[36] JPM WHO/UNICEF 2018 WASH in schools. Global baseline report 2018, Available here.

[37] In March 2018, the UN Secretary General issued a global call to action on WASH in health care facilities. By 2022, 60% of all health care facilities globally and in each SDG region will have at least basic WASH services, 80% have basic WASH services by 2025, and 100% by 2030.

[38] Adapted from JMP (2019). WASH in Healthcare Facilities. Available here.

- Contributing to correcting the causes of inequity through monitoring, advocacy and supporting in-country policies; and
- Directing UNICEF's investments in the water sector towards areas that contribute to reducing inequities.

The 'leave no one behind' agenda must be incorporated into all steps of UNICEF's country programme cycle; particularly as part of the broader enabling environment activities and during the project implementation. Vulnerable groups need to be identified and involved in all phases of water interventions, from planning and design to the management of the systems. In many parts of the world, women and children play a critical role in the fetching and use of water, and therefore UNICEF interventions need to be certain of taking their needs into consideration, and that they address gender inequalities wherever possible.

UNICEF will continue using a rights-based approach, by identifying the barriers that prevent equality and non-discrimination, and will promote accountability mapping exercises to analyse the different roles and responsibilities of policy makers, service providers and users to ensure sustainable and equitable water services.

Gender, and youth engagement

The gender dimension must be carefully considered in all UNICEF programming.[39] Increasing access to safely managed water services supports women and girls in particular, because it reduces the amount of time spent on water collection activities, and because services that are closer to home expose women and girls to less risk of assault. Girls and women's involvement in WASH programming activities from the outset of all water programmes encourages them to play an active role in

[39] For comprehensive operational guidance on WASH and gender, including programming tips and checklists consult the document Promoting Gender Equality through UNICEF-Supported Programming in Young Child Survival and Development (see the WASH chapter on page 29).

[40] WHO, '10 facts on disability'. Available here. Accessed 8 March 2020.

[41] Key strategies for inclusive and accessible WASH programming are available here.

developing their communities. Special attention should be paid to ensure women are well represented in organisational structures that are responsible for implementation, monitoring, and reporting of water-related activities. Women are key actors for building community resilience, as they are often involved in small-scale livelihood activities with regard to water points (e.g. small-scale agriculture). Women are increasingly being employed in the sector, and are being trained in drilling techniques, and the operation and maintenance of water services, as well as in other jobs with administrative and financial responsibilities.

Youth engagement to build community climate resilience is essential; young people will inherit water services which must be sustainable in all senses – including environmental. Supporting capacity building (for example through vocational centres) for the next generation of water professionals will have a positive impact for young people, as it can help them to identify income-generating opportunities within their communities, from becoming plumbers or mechanics to administrators and managers of small utilities or water business.

Disabilities

Children living with disabilities have the same rights as any other child, including the right to clean water, and adequate sanitation and hygiene. However, they are likely to have specific additional needs, which are often overlooked. The WASH sector must ensure not just that these additional needs are being seen, and understood, but ultimately that they are being met. Considerations for those with disabilities is at the heart of the SDG agenda, and SDG 6 requires us to work towards the availability and sustainable management of water and sanitation for all. To overlook the needs of those with disabilities in our water programming is therefore to fail in our efforts to deliver the SDGs themselves.

According to WHO, about 15 per cent of the global population live with some sort of disability, and 110-190 million adults have very significant difficulties in functioning.[40] Safe, inclusive and accessible WASH services will help ensure everybody can benefit from improved health outcomes, enhancing the lives of people living with disability, reducing the workload of families in caregiving tasks and reducing the rate of acquiring and spreading water-borne diseases.[41]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Water Game Plan milestones

Regional targets have been calculated based on the current Strategic Plan's first ambition, to reach 60 million people with at least a Basic +2 service by 2021. The table below outlines the Strategic Plan's 2018-2021 targets for Basic+2 on a region by region basis, as well as results for UNICEF WASH indicators (SMQs) for 2018 and 2019, to give a sense of progress towards that goal.

Table 4: Overview of the SMQ results and water game plan target, by region

	Number of additional people with access to a safe drinking water services through UNICEF-supported programmes in 2018	Number of additional people with access to a safe drinking water services through UNICEF-supported programmes in 2019	Target for 2018-2021 (people with basic+2)
EAPR	600,858	196,326	2,800,000
ECAR	218,121	1,608,703	
ESAR	4,816,303	2,025,693	21,000,000
LACR	181,114	258,297	800,000
MENAR	7,379,249	7,242,783	11,500,000
ROSA	1,589,626	2,511,045	7,000,000
WCAR	3,805,060	4,475,827	16,900,000
	Total 18,590,332	**Total 18,318,674**	**Total 60,000,000**

Note: *Data in 2018 did not collect information on Basic+2 beneficiaries, so the 2018 data are estimated based on the Basic and above service levels reported. Results for 2019 are preliminary.*

With support from regional offices and headquarters, game plan country offices will work towards the following milestones:[42]

2020 – YEAR 1

It is important to note that the first year of implementation of the Water Game Plan coincides with UNICEF´s shift to climate-resilient WASH programming.

- SDG 6.1 baselines and national targets and strategies reviewed against the goal of universal safe and sustainable water services for all by 2030;
- Effectiveness of the current approaches and progress to achieve universal safe and sustainable water services for all by 2030 analysed in all Water Game Plan countries;
- Water Game Plan regional and country targets beyond 2021 are defined, specifying UNICEF direct and indirect contributions to achieving universal access to safe water for all by 2030;[43]
- Water Game Plan country plans are prepared, in coordination with regional offices, to incorporate its ambition and the shift to climate-resilient WASH programming;
- Regional offices consult with country offices to establish their contributions towards the 2030 Water Game Plan ambition;

[42] The milestones will be under periodic review

[43] A UNICEF working group has been defined to discuss and propose a methodology for providing and monitoring indirect results.

- UNICEF uses its comparative advantage to convene stakeholders to analyse current approaches, and to develop a vision and political will for national policy analysis on SDG 6.1;
- National and regional advocacy and resource mobilisation materials are developed;
- Country office annual/rolling work plans and monitoring frameworks start to be adjusted to support the Water Game Plan, and the shift to climate-resilient WASH;
- Resources required to fulfil country office work plans are identified and mobilised; and
- Regional consultations and other WASH network meetings are used as an opportunity to present the Water Game Plan's ambition to achieve universal safe and sustainable water services for all by 2030.

2021 – YEAR 2

- Country office staff are engaged in strategic global planning and review for the Water Game Plan;
- Water targets are agreed for the new UNICEF Strategic Plan 2022-2026;
- Experiences and lessons on monitoring water progress towards SDG targets with an equity focus are shared;
- National policies and plans that focus on achieving SDG 6.1 are reviewed;
- Current domestic investments, both public and private for water are analysed; and
- Governments are supported to develop costed plans and implement roadmaps to universal safe and sustainable water services for all by 2030.

2022 – YEAR 3

- Governments continue to be supported to develop costed plans and implement roadmaps to achieve universal safe and sustainable water services for all by 2030, and are also supported to mobilise domestic partnerships and resources for these costed plans and roadmaps;
- Cross-country learning continues, sharing innovations within and between countries;
- Sanitation and Water For All's annual 'High-level Meeting' addresses universal safe and sustainable water services for all by 2030, with finance and sector ministers attending.

2023 – YEAR 4

- Water Game Plan objectives are reviewed based on progress, and action for strengthening its implementation is taken, if appropropriate;
- Governments continue to be supported to mobilise domestic partnerships and resources for costed plans and roadmaps;
- Lessons learned from national water game plans are compiled; and
- Contributions are made to a special global report on universal safe and sustainable water services for all by 2030.

2024 – 2030

- Governments continue to be supported to mobilise domestic partnerships and resources for costed plans and roadmaps to 2030.

Monitoring

Together with UNICEF's regional offices, UNICEF headquarters will monitor progress on the Water Game Plan through bi-annual updates of progress, annual programme reviews and project completion reports of the Water Game Plan countries, maximising the use of existing organisational monitoring systems. Progress towards the Strategic Plan targets will be reviewed on an annual basis using UNICEF's Standard Monitoring Questions (SMQ) reporting system, with particular attention paid to the Water Game Plan priority countries.

An online dashboard will enable visualisation of the monitoring data. The dashboard will create accountability and give a clear sense of progress, both on the implementation of the Water Game Plan, and ultimately towards successfully achieving universal safe and sustainable water services for all by 2030.

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Annex 1: Additional resources available

UNICEF WASH strategies

UNICEF'S Strategy for WASH (2016-2030) - Executive Summary (English) (French) (Portuguese) (Spanish). Full document in: (English) (French) (Portuguese) (Spanish)

UNICEF Strategic Plan, 2018–2021: Executive Summary

UNICEF'S Regional Urban WASH Strategic Framework for South Asia

Global WASH Knowledge Management Strategy 2017-2021

UNICEF Rural Water Supply Evaluation 2006-2016 (Board report) (Summary in English) (Annex) (Summary in French)

Trainings in Agora portal

WASH Foundational course

Strengthening Enabling Environment for Water, Sanitation and Hygiene (WASH)

Strengthening Enabling Environment for Water, Sanitation, and Hygiene (WASH) Learning Channel

Core Commitments for Children (CCC)

Humanitarian WASH Coordination (Global WASH Cluster) (7 modules): 1-Introduction; 2-Induction; 3-Operational Coordination; 4-Leadership and coordination; 6-Market Based Programming; 7-Information Management; 9-WOC and L&C

WASH in Emergencies Training

Other training

UNICEF/Water Mission/CapNet Solar course

Emergencies

Water under fire. The role of water in conflicts around the world.

Core Commitments for Children (CCC) (new version under development)

Global WASH Cluster Coordination Toolkit - (multiple tools and documents)

Global WASH Cluster. Resources site - (multiple tools and documents)

2018 UNICEF WASH in emergencies evaluation synthesis (English) (French)

A UNICEF Cholera Toolkit for WASH (Toolkit)

Case studies: Emergencies

Improving WASH Service Delivery in Refugee Settings: The Experience of Localization and Professionalization of WASH Services in Ethiopia

Somalia & South Sudan: Improving Delivery of Humanitarian WASH Supplies During Protracted Crises

Approaches for Improving WASH Emergency Preparedness and Response: Experience from Zimbabwe & Uganda

Professionalisation of drilling operations

Enabling environment

UNICEF Manual drilling toolkit (Toolkit with several documents and references)

Professionalizing manual drilling in Africa

Code of practice for cost Effective Boreholes

Professionalizing the Manual Drilling Sector in Africa A Guide to Building Capacity to Increase Access to Safe Water in Rural Areas

Professional Water Well Drilling. A UNICEF Guidance Note

UNICEF Supply Division: Water and Sanitation Product information and catalogues, Innovation;

RWSN portal. Sustainable groundwater development

UNICEF groundwater development toolkit: technical notes, case studies and technical manuals

WASH finance

2016 Commercial financing WASH sector

2017 UNICEF and World Bank for SWA - How can the financing gap be filled?

2017 UNICEF Choosing Public Expenditure Analytical Tools for Use in the WASH Sector (English) (Spanish) (French)

Easy- to-Use Guidelines to Apply the WASH SDG Costing Tool (English) (French) (Spanish) (Excel file for calculation)

SDG costing tool (Excel file)

2019 Making an Investment Case for WASH

Value for Money

Human rights, leaving no one behind

Human Right to Water and Sanitation (HRWS): Resolution adopted by the UN General Assembly (July 2010)

Special Rapporteur on the human rights to safe drinking water and sanitation (portal)

2014 Realizing the human rights to water and sanitation: A Handbook (UN Special Rapporteur on the human right to safe drinking water and sanitation

2018 Affordability Concept Note

2019 Affordability Country Case Study Methodology Guide

TP06 - WASH Service Affordability Response Options

Advocating for investment in accessible and inclusive WASH

The Case for Investment in Accessible and Inclusive WASH

Achieving WASH Service Affordability: Global Practice and Response Options

WASH Affordability Programming (under development)

2015 For every child, a fair chance: the promise of equity

2016 UNICEF WHO Inequalities in sanitation and drinking water in Latin America and the Caribbean

2013 UNICEF Disability_Take_Us_Seriously

2017 WASH Disability Inclusion Practices. Including people with disabilities in WASH programing

Case studies: Human rights, leaving no one behind

2016_Translating the Human Right to Water and Sanitation into public policy formulation and practice, the case of the water and sanitation sector in Angola under the NATO model perspective

2017 Integrating Value for Money principles in WASH for affordable and sustainable WASH services in Nigeria

2018 Understanding water related emotional distress for improving water services, A case study from an Ethiopian small town

Accountability and sustainability

UNICEF SIWI UNDP Accountability for sustainability portal

2018 Programming for sustainability in water services. A framework

Sustainability Checks – guidance to design and implement sustainability monitoring in WASH

2015 UNICEF, UNDP_WASH and Accountability, Explaining the Concept

2016 WASH Enabling Environment Water Governance SIWI UNICEF (English) (French)

2016 WASH Enabling Environment Guidance Note UNICEF (English) (French)

2017 WASH Accountability Mapping Facilitator Guide

Strengthening Enabling Environments for Water, Sanitation and Hygiene (WASH) Guidance Note

Sustainability checks guidance note

Sustainability framework

2015 UNICEF Learning note measuring factors that predict if WASH services are sustainable

Regulation: Concept note and guidance document (under development, planned for 2020)

Case studies: Accountability and sustainability

An innovative model for assessing the sustainability of WASH programming in Pakistan

Life cycle cost analysis of water supply infrastructure affected by low rainfall in Ethiopia

Sector development

WASH Bottleneck Analysis Tool (WASH BAT) website and Facilitators Page

2015 UNICEF Study into relative effectiveness of Public Private Partnership (PPP) arrangements for Rural Water Supply Report of Findings and Conclusions

UNICEF WASH Private Sector Engagement - Discussion Paper

2017 WSUP The Business Case for Investing in WASH

UNICEF WASH Technology Information Packages (TIPs)

2015 Methodological process for strengthening National Humanitarian WASH Coordination (internal document)

Case studies: Sector development

2018 UNICEF Ethiopia Sector Wide Approaches. One WASH National Programme

2016 Public Private Partnership for Rural Water Supply, Experiences from Zimbabwe

2017 Asset creation versus sustaining services, institutionalizing VLOM to deliver SDG-6.1 target in Nigeria

2017 Promising practices in WASH - Some case studies of Nigeria

2015 UNICEF Learning Note #1 South-South collaboration Brazil-Ethiopia

2016 UNICEF_A comparative analysis of public-private partnerships for piped rural water services in East Africa

Cross-sectoral

2015 Improving nutrition outcomes with better water sanitation and hygiene: practical solutions for policies and programmes.

UNICEF strategy for health 2016-2030

Gender Responsive WASH guidelines

Violence and gender: A practitioner's toolkit

2017 Gender Responsive WASH Elements for Programming UNICEF

2017 WASH and Disability Guidance Note UNICEF

TP04- The case for investment in accessible and inclusive WASH

2016 UNICEF SHARE Impact of WASH on Key Social and Health Outcomes Review of Evidence

2019 01 Discussion Paper WASH for and with the Second Decade

Youth Participation in WASH: UNICEF Iraq Experience

WASH4WORK: The Business Case for Investing in WASH

2018 Clean Hands for All – New Tools for Hygiene Advocacy

2011 Disaster risk reduction and water, sanitation, and hygiene -Comprehensive guidance (GWC)

Sanitation game plan

UNICEF'S Football for WASH Programme in Kenya: Implementation, Outcomes and Lessons Learnt

Monitoring and evaluation

Guidance on Application of MORES in WASH Programmes (English) (French)

Third Party Monitoring of WASH in Pakistan

2019 Note on WASH Information Management System Roll-out in Sudan

JMP/GLASS reports

JMP portal

2019 JMP-Household-report-final

Progress on household drinking water, sanitation and hygiene. 2000-2017. Special focus on inequalities

2017 JMP Safely managed drinking water - thematic report on drinking water 2017

2019 GLAAS report. UN-Water Global analysis and assessment of sanitation and drinking water (WHO)

2018 Access to Drinking Water Services in Eastern and Southern Africa

JMP guidance on adopting the core questions (& expanded as appropriate) for WinS

Urban WASH

UNICEF Global Framework for Urban WASH

Urban Water Shortages: Preparing for Day Zero (under development)

Shaping urbanization for children A handbook on child-responsive urban planning

2018- UNICEF Child friendly cities and communities handbook

2019 UNICEF -Briefing note on Innovations on WASH in urban settings

2017-UNICEF- Strategic Note on UNICEF'S Work for Children in Urban Settings

2016- UNICEF- The urban landscape analysis

2016 Providing Water to Poor People in African Cities. Lessons from Utilities Reforms

2016 UNICEF - Urban 101

2019 ROSA WASH Urban Framework

2018-UNICEF-UNICEF WCARO - Urban WASH overview

2019 UNICEF Capacity assessment and mapping of urban WASH programming

2019 UNICEF Systematic Review of Interventions and Evidence for WASH in urban settings

2019 UNICEF Urban WASH Stakeholder analysis (internal document)

2019 UNICEF Guidance on Local Governance Approach to Programming

2017 UNICEF ESARO Urban WASH Training Report

Case studies: Urban WASH

2015 UNICEF Vulnerability Assessment 8 Towns Ethiopia

2016 UNICEF BCBT (Build Capacity Build Transfer) Learning Note Ethiopia

Fuzzy Logic Analysis of the Build, Capacity Build and Transfer (B-CB-T) Modality for Urban Water Supply Service Delivery in Ethiopia

2016 UNICEF Learning Note Value for Money OneWASH Plus Ethiopia

2016 WASH Programming in Urban Areas and Small Towns, Lessons from Zimbabwe's Emergency Rehabilitation and Risk Reduction Programme

2018 FN14 -Improving urban WASH services delivery Lessons from rehabilitation of WASH infrastructure for small towns in Zimbabwe

2019 FN22 - Urban WASH programming in Megacities Supporting Low Income Communities of Dhaka, Bangladesh

2019 FN23 - Urban WASH in Small Towns The ONEWASH Plus Programme in Ethiopia

2019 FN24 - Urban WASH programming in Protracted Conflict Contexts Aleppo's Experience, Syria

2016 UNICEF Child wellbeing survey in urban areas of Bangladesh

2015 UNICEF Final draft One WASH plus and Gender implementation guideline Ethiopia

2017 TP01 - UNICEF Modelling and surveying Syria's urban water systems

2015 UNICEF Field Note -Urban WASH in Small Towns - Mozambique

Climate resilience

2014 A Strategic Framework: WASH Climate Resilient Development

2017 WASH Climate Resilient Development, Guidance note for risk assessments

GWP/UNICEF website to access technical briefs (6), learning modules (5) and additional resources

Addressing the impact of climate change on children: Executive directive (UNICEF, March 2016) (internal document)

Climate Landscape Analysis for Children examples

Climate Funding Primer, launch webinar and Climate funding for WASH (under development)

Water Scarcity papers (under development)

2018 UNICEF Energy Climate and Environment Strategic Moment of Reflection (SMR)

2019 UNICEF An Environment Fit for Children

Thirsting for a Future: Water and children in a changing climate

Unless we act NOW

Case studies: Climate resilience

2018 FS02 WASH Climate Resilience A Compendium of Case Studies

UNICEF Compendium of WASH Climate Resilience Programming Field Experiences

2017 Le pompage solaire. Pour les cadres techniques du secteur public et privé Appliqué aux Adductions d'Eau Potable en milieu rural

2018 FN18 - Using Solar Powered Water Systems to Improve Climate Resilience in Rural Myanmar

2018 Impact of climate change on WASH services, a case from Nepal

Multiples Uses of Water in Madagascar: drinking water, agriculture and livestock

Offering Solutions: An Appraisal of WASH Sustainability Challenges in Pakistan

Using GIS and Remote Sensing to Access Water in the Drought-Prone Areas of Ethiopia and Madagascar

Increasing Water Security in Gaza through Seawater Desalination

Managed Aquifer Recharge (MAR) Protecting Communities from Saline Intrusion of Groundwater in Coastal Areas of Bangladesh

2019 FS06 - Groundwater Early Warning System for the South of Madagascar

2019 UNICEF Iraq Water Scarcity Crisis in Basra

Multi-Tiered Approaches to Solving the Water Crisis in Basra, Iraq

Combining Manual Drilling and Solar Energy to Ensure Drought Resilience in Mauritania

Using Solar Powered Water Systems to Improve Climate Resilience in Rural Myanmar

A Gathering Storm – Climate change clouds the future of children in Bangladesh

Water quality

Water safety portal (WHO)

2014 WHO Water Safety Plan - a field guide to improving drinking-water safety in small communities

UNICEF Guidance document (under development)

Systematic review of risks along Water chain

Water Quality module available at MICS

Rapid assessment of drinking water quality (RADWQ) Handbook for Implementation.

JMP WHO/UNICEF Rapid assessment of drinking water quality (RADWQ) Country Implementation.

2008 UNICEF Handbook on water quality

UNICEF WHO Arsenic Primer

2013 Arsenic contamination in groundwater: Current issues paper

2018 Policy Brief on Mitigating Arsenic in drinking water

Case studies: Water quality

Community Drinking Water Safety and Security Planning in Pacific Island Countries

2019 FN21 - Piloting a field-based Water Quality Test for E. coli – lessons from Afghanistan

2019 FN20 - Piloting the implementation of Water Safety Plans through CLTS teams in Afghanistan

2018 Impact Assessment of Water Safety Plans in Rural Communities of Katsina State, Nigeria

2017 How Much Will It Cost To Monitor Microbial Drinking Water Quality in Sub-Saharan Africa

UNICEF Fiji DWSSP - Checklist for Risk Assessment Drinking Water Safety Planning

Impact Assessment of WSPs in Rural Communities of Katsina State, Nigeria

Impact Assessment of WSPs and Multi-barrier Approach Southern Syria

Impact Assessment of WSPs in India, DRC, Fiji and Vanuatu

Institutional WASH

WASH in Schools

JMP WHO/UNICEF 2018 Global baseline report WASH in Schools

Field guide: Three-star approach for WASH in schools

2010 Global WinS Call to Action Communication Plan

2012 Global Raising Even More Clean Hands

2013 UNICEF GIZ Field Guide to Three Star Approach to WinS (English) (French)

2015 GIZ WASHaLOT Field_Guide

2017 UNICEF International Learning Exchange (ILE) in 6 countries

2011 UNICEF WinS Monitoring package (English) (French)

2017 UNICEF WinS Evaluation Synthesis 2007-2015

2009 WHO UNICEF Standards for WASH in Schools in Low Cost Settings

2012 UNICEF Equity of Access to WinS

2012 UNICEF Compendium_of_WinS_Facilities_in_Emergencies

2016 10 JMP DATA DRIVE for Basic WASH in Schools

2016 JMP Core Questions and Indicators for WinS in the SDGs

2016 UNICEF GIZ Compendium of Group Washing Facilities

2016 WHO Europe Regional WinS with example advanced SDG targets

Six Points of Action for WASH in Schools

2017 UNICEF WHO Scoping study on WASH in Schools -EAPRO

2017 UNICEF WHO Scoping study on WASH in Schools-LACRO

2017 UNICEF WASH in Schools Cost Model (Excel file)

2016 UNICEF Costing Model- User's Manual

2013 UNICEF Back_To_School_Guide

2014 ISDR UNICEF Save Comprehensive School Safety Framework

2014 UNICEF WinS Bottleneck Analysis Monitoring Tool

2015 UNICEF Advancing WinS Monitoring

2012 UNICEF Emory WASH in Schools 101 training course

2011 UNICEF WASH in Schools in Emergencies Guidebook for teachers

Case studies: WASH in Schools

Scoping Study of WASH in Schools Programming in Eastern and Southern Africa

2018 UNICEF Government of Rajasthan (India) WASH in Schools documentation

2017 EMORY UNICEF Policy Brief on impact of WinS Mali

2017 EMORY UNICEF Policy Brief on impacts WinS Laos

2017 EMORY UNICEF Policy Brief on outcomes WinS Laos

2017 Effectiveness and impact evaluation of a WASH in schools intervention in Laos, 2014-2017: A randomized controlled trial

2016 UNICEF_WASH in Schools in Angola, Diagnosis of water and sanitation conditions of 600 schools in 6 provinces of Angola

2014 Lao PDR Raising Clean Hands

WASH in healthcare facilities

UNICEF WHO Water and Sanitation for Health Facility Improvement Tool (WASH FIT) A practical guide for improving quality of care through water, sanitation and hygiene in health care facilities- (English) (Arabic) (French) (Spanish)

2019 WASH in Health Facilities: Guidance for UNICEF Country Offices (under development)

JMP WHO/UNICEF 2019 Global baseline report WASH in Health Care Facilities. Highlights

2019 WHO UNICEF JMP WASH in Health Care Facilities Global Baseline Report. Full report

2015 UNICEF WHO WASH In HCFs Assessment Report on WASH in HCFs in middle and low income settings

JMP WHO/UNICEF 2019 WASH in Health Care Facilities. Practical steps to achieve access to quality care

2016 WHO UNICEF JMP core-questions-and-indicators-for-monitoring-WinHCFs

2019 UNICEF WHO WASH-in-HCF-Practical-Solutions-for-Universal-Access-to-Quality-Care

2018 UNICEF WHO Global Response WASH in HCFs

2017 UNICEF Report Global Learning Event Meeting WASH in Health Care Facilities

Case studies: WASH in healthcare facilities

2017 UNICEF WHO Scoping study on WASH in Health care facilities- EAPRO

2017 Technical guide for WASH in PHC centres in Nigeria

SharePoint sites (HQ)

WASH

Water

Water Access

Sustainability

Sanitation

Climate Resilience

Solar-Powered Water Systems

Water Scarcity

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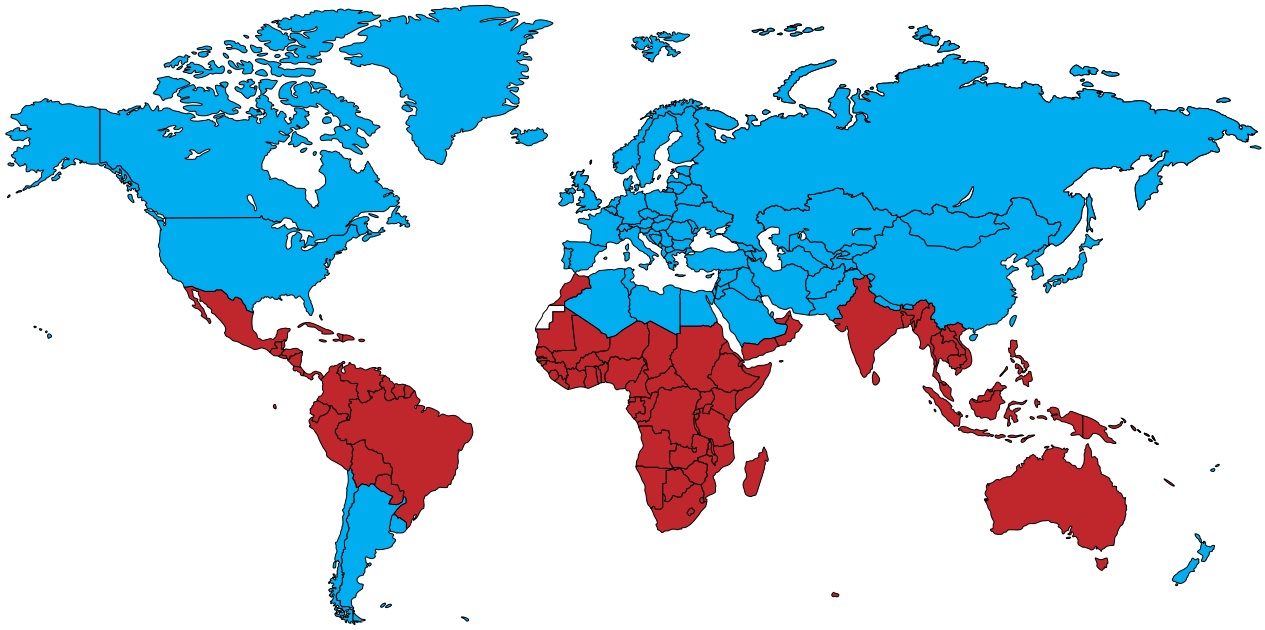
Annex 2: Climate risk assessments for Water Game Plan countries

Drought risk World Resources Institute (2019)				Riverine Flood Risk World Resources Institute (2019)				See Level Rise Risk Climate Central (2014)			
								By pop. exposed		By % of pop. exposed	
1	Moldova	31	Azerbaijan	1	Somalia	31	Suriname	1	China	1	Netherlands
2	Ukraine	32	Italy	2	Mauritain	32	Georgia	2	Vietnam	2	Vietnam
3	Bangladesh	33	Tajikistan	3	Liberia	33	Sudan	3	Japan	3	Thailland
4	India	34	Burundi	4	Banglades	34	Senegal	4	India	4	Japan
5	Serbia	35	Croatia	5	Cambodia	35	Eritrea	5	Bangladesh	5	Myanmar
6	Syria	36	Nicaragua	6	Myanmar	36	Liechtenstein	6	Indonesia	6	Bangladesh
7	Morocco	37	Sri Lanka	7	South Sudan	37	Tanzaina	7	Thailand	7	United Arab Emirates
8	Haiti	38	Czech Republic	8	Kyrgyzstan	38	Nepal	8	Netherlands	8	Philippines
9	Romania	39	Ghana	9	Afghanistan	39	Niger	9	Philippines	9	Bahrain
10	Indonesia	40	China	10	Tajikistan	40	Mongolia	10	Myanmar	10	Belgium
11	Cambodia	41	Kenya	11	Djibouti	41	Libya	11	United States	11	Oman
12	Togo	42	United Kingdom	12	Vietnam	42	Morocco	12	United Kingdom	12	Taiwan
13	Uzbekistan	43	France	13	Laos	43	Honduras	13	Brazil	13	Indonesia
14	Poland	44	Thailand	14	Indonesia	44	Guatemala	14	Germany	14	Denmark
15	Lithuania	45	Turkey	15	Guyana	45	United Arab Emirates	15	France	15	United Kingdom
16	Hungary	46	Latvia	16	Madagascar	46	Iraq	16	Malaysia	16	Malaysia
17	Pakistan	47	Spain	17	Rwanda	47	Central African Rep.	17	Taiwan	17	China
18	Tunisia	48	Cote d'Ivoire	18	Chad	48	Ghana	18	Korea, Republic of	18	Hong Kong
19	Vietnam	49	Jamaica	19	Lebanon	49	Syria	19	Nigeria	19	Cambodia
20	Belarus	50	Portugal	20	Mozambique	50	Pakistan	20	Italy	20	Ireland
21	Cuba	51	El Salvador	21	Egypt	51	Guinea				
22	Dominican Republic	52	Iran	22	Mali	52	Timor-Leste				
23	Rwanda	53	Paraguay	23	North Korea	53	Gambia				
24	Macedonia	54	Philippines	24	Sierra Leone	54	Belize				
25	Lebanon	55	Guatemala	25	Malawi	55	India				
26	Slovakia	56	Benin	26	Guinea-Bissau	56	Benin				
27	Bosnia and Herzegovina	57	Lesotho	27	Papua New Guinea	57	D.R. of the Corgo				
28	North Korea	58	Turkmenistan	28	Kenya	58	Burundi				
29	Denmark	59	Afghanistan	29	Sri Lanka	59	Bhutan				
30	Bulgaria	60	Kyrgyzstan	30	Yemen	60	Philippines				



Countries marked in red are exposed to El Niño Southern Oscillation (ENSO) (adapted from Hsiang et al. (2011)[44].

Climate risk assessment for Water Game Plan countries was done by comparing those countries against the following country risk rankings by climate hazards and exposure to El Niño Southern Oscillation, as shown on the following table

[44] Hsiang S. M., Meng K. C. & Cane M. A. Civil conflicts are associated with the global climate. Nature 476, 438–441 (2011). Available here.

The Water Game Plan countries assessed against climate major climate risks

UNICEF WATER GAME PLAN		Drought (ranking)	Flood (ranking)	Sea Level Rise (ranking)	El Nino
1	Afghanistan	X (59)	X (9)		
2	Angola				X
3	Bangladesh	X (3)	X (4)	X (5, 6)	X
4	Central African Republic*				X
5	Chad				X
6	China			X (1,17)	
7	Democratic Republic of the Congo		X (57)		X
8	Ethiopia				X
9	Eritrea		X (35)		X
10	Guinea		X (51)		X
11	Guinea-Bissau		X (26)		X
12	Haiti	X (8)			X
13	India	X (4)	X (55)	X (4)	X
14	Indonesia	X (10)		X (6, 13)	X
15	Kenya	X (41)	X (28)		X
16	Madagascar		X (16)		X
17	Mozambique		X (20)		X
18	Myanmar		X (6)	X (10,5)	X
19	Niger		X (39)		X
20	Nigeria			X (19)	X
21	Pakistan	X (17)	X (50)		
22	Papua New Guinea		X (27)		X
23	Sierra Leone		X (24)		X
24	Somalia		X (1)		X
25	South Sudan		X (7)		X
26	Sudan		X (33)		X
27	Syrian Arab Republic	X (6)	X (49)		X
28	Togo	X (12)			X
29	Uganda				X
30	United Republic of Tanzania		X (37)		X
31	Yemen		X (30)		X
32	Zambia				X
33	Zimbabwe				X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for every child

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UNICEF works in the world's toughest places to reach the most disadvantaged children and adolescents – and to protect the rights of every child, everywhere. Across 190 countries and territories, we do whatever it takes to help children survive, thrive and fulfill their potential, from early childhood through adolescence.

The world's largest provider of vaccines, we support child health and nutrition, safe water and sanitation, quality education and skill building, HIV prevention and treatment for mothers and babies, and the protection of children and adolescents from violence and exploitation.

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Non-political and impartial, we are never neutral when it comes to defending children's rights and safeguarding their lives and futures.

And we never give up.