

Taking Stock of Progress Towards Gender Equality in the Water Domain

Where do we stand 25 years after the Beijing Declaration?



Published in 2021 by the United Nations Educational, Scientific and Cultural Organization
7, Place de Fontenoy, 75352 Paris 07 SP, France.

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ISBN 978-92-3-100453-7



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Suggested citation: UNESCO WWAP. 2021. *Taking Stock of Progress Towards Gender Equality in the Water Domain: Where do we stand 25 years after the Beijing Declaration?* Paris, UNESCO.

Cover artwork by Davide Bonazzi

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Printed by UNESCO

Printed in France

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SHORT SUMMARY

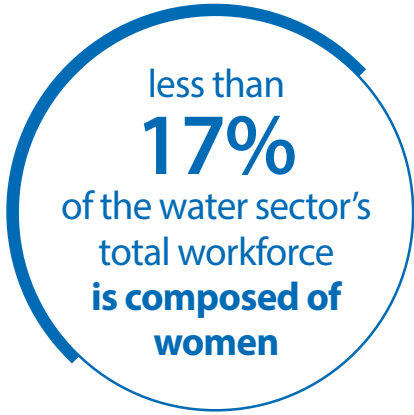
Gender equality in the water domain is clearly off track

Women are not only the main persons responsible for water collection in many parts of the world, but they also possess invaluable knowledge with regard to water resources and play a key role in water and sanitation management at the local and community levels. Accordingly, women must be able to enjoy equal access to water and also have an equal say in the management and governance of water resources. Twenty-five years after the Beijing Declaration and Platform for Action, progress towards gender equality through the fulfilment of the basic right to water and sanitation is clearly off track.

Despite advances at the policy level in acknowledging the need to progress towards gender equality in the water sector – and the resulting benefits – large gender inequalities persist in practice. Women are generally under-represented in terms of participation at all levels: from institutional bodies that manage national or transboundary waters, to water-related institutions such as governmental water agencies and water utilities, to local water management institutions.

This report provides a detailed overview of the existing and emerging challenges to gender equality in the water domain with a particular focus on: access to water, sanitation and hygiene (WASH), health, employment, climate change management, water governance, education and training, and data collection and funding. Systematic and sustained efforts to eliminate these inequalities are essential to achieve meaningful and lasting gender equality in the water sector, and to promote sustainable development in general.

Governments, international organizations, professionals and policy-makers in the water sector, academia and NGOs are invited to join forces to accelerate the achievement of gender equality in water for a more just, sustainable and peaceful future.



less than
17%
of the water sector's
total workforce
is composed of
women



"Since wars begin in the minds of men and women it is in the minds of men and women that the defences of peace must be constructed"

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ACKNOWLEDGEMENTS

This publication is the result of a collaborative effort of the Water and Gender Working Group led by the UNESCO World Water Assessment Programme (WWAP), and includes the content contributions and revisions of experts from international and regional organizations, United Nations agencies, Member State institutions, non-governmental organizations (NGOs), UNESCO Chairs, academics and individual experts, whose names are listed below.

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INTRODUCTION

Water is a prerequisite to life and is crucial in societies as a connector of the diverse dimensions of sustainable development – health, agriculture, education, climate change and migration. However, the questions of how water is distributed, who has access to it, who controls it, who maintains its systems, who makes decisions regarding its use, and who benefits from its use, are complex management and governance matters shaped by many factors, including gender norms and social relations of power.

Access to water and access to sanitation are both fundamental human rights and are vital to accelerating progress on the Sustainable Development Goals (SDG). Achieving gender equality and empowering all women and girls in the water domain are essential to ensuring no one is left behind and everyone realizes their rights to water.

The year 2020 was a milestone on the journey to gender equality as it marked 25 years since the adoption of the Beijing Declaration and Platform for Action – a blueprint for action on women’s rights. It also marked the tenth anniversary of the recognition by the United Nations of the human right to water and sanitation. This particular year also saw the world affected by the coronavirus disease (COVID-19) pandemic.

Since the Beijing Declaration and Platform for Action came into existence, gender equality and the empowerment of women have gained ground in numerous international policy frameworks and treaties. However, progress has been uneven. For instance, while education and health have fared reasonably well, too few advances have been made in the areas of gender-based violence, labour market participation, political representation, and peace and security (United Nations Entity for Gender Equality and the Empowerment of Women – UN Women, 2015). Gender inequalities in the use and management of water and sanitation are still pervasive and tangible progress is insufficient. Moreover, while the central role of women in the provision, management and safeguarding of water is now well recognized, reliable data on the current situation and progress made in achieving gender equality in the water domain are scarce and fragmented. Despite the numerous international commitments related to gender and water, practices are not satisfactorily on track with promises (UN Women/UNESCO WWAP, forthcoming). The COVID-19 pandemic is demonstrating the deadly consequences for those who are deprived of water: without minimal means for basic personal hygiene, the risk of contracting the disease rises dramatically.

This publication aims to analyse the progress made and gaps remaining in the achievement of gender equality and the empowerment of women – keeping in mind their intersections with other challenges the world faces today – in the water and sanitation sector. It also aims to answer the call of the United Nations to accelerate the implementation of the SDGs (UN-Water, 2020a; UN-Water, 2020b).

The structure of the paper is as follows. Chapter 2 provides a historical background to the most relevant international policy frameworks for human rights, sustainable development and climate change, discussing how they relate to women and water. Chapter 3 presents an overview of current and emerging challenges in the water domain related to the seven critical areas of concern of the Beijing Declaration and Platform of Action that have direct linkages to water and sanitation: human rights, sanitation and health, water-related work, climate, governance, education and training, and enabling environments – data and funding. Chapter 4 offers some concluding remarks.

2

WATER AND GENDER: BACKGROUND TO INTERNATIONAL POLICY FRAMEWORKS AND TREATIES

The gendered nature of water and sanitation has long been on the international agenda. As early as 1977, at the United Nations Water Conference at Mar del Plata, the role of women in water was emphasized, and during the first water decade – the International Drinking Water Supply and Sanitation Decade (1981–1990) – the importance of involving both women and men in the management of water and sanitation was underlined. Since then, key international policy frameworks and treaties have acknowledged gender inequalities in the water sector and considered their intersection with the areas of human rights, sustainable development and climate change.

2.1 Gender and the human rights to water and sanitation

Since the early 1990s, women’s rights to water and sanitation have increasingly come to the forefront of the international water agenda (Thuy et al., 2019). In 1992, the third guiding principle of the Dublin Statement on Water and Sustainable Development,¹ in declaring that “women play a central part in the provision, management and safeguarding of water”, recognized the pivotal role women play as providers and users of water and also in the management of natural resources. The principle brought attention to the requirement for policies that address women’s specific needs and empower women in terms of their participation in decision-making on, and implementation of, water programmes in “ways defined by them”. In other words, it conveyed the message that women should have the agency to make their own decisions at all levels in the water domain. This message was confirmed at the 1992 Earth Summit, held in Rio, and strengthened at the 2002 World Summit on Sustainable Development, held in Johannesburg.²

The Convention on the Elimination of All Forms of Discrimination against Women (1979),³ the Convention on the Rights of the Child (1989),⁴ the Declaration on the Elimination of Violence against Women (1993)⁵ and the Declaration on the Right to Development (1986)⁶ paved the way for the Beijing Declaration and Platform for Action.⁷ All these international frameworks specifically refer to the human rights to water and sanitation as they relate to women and girls.

The adoption of the Beijing Declaration and Platform for Action in 1995 at the Fourth World Conference on Women was a turning point in the recognition of women’s rights and the empowerment of women. The visibility provided by the Declaration to the issues affecting women and girls and the strong political will displayed to address those issues were unprecedented. The Declaration calls for the right of women to enjoy the highest standard of life, on an equal level with men, and with 189 States Parties, it stands as a progressive collective effort in this regard. The Beijing Declaration and Platform for Action sets out a comprehensive road map for achieving equality between women and men, with concrete measures, expected outcomes and commitments related to 12 critical, interrelated areas of concern: women and poverty, education and training of women, women and health, violence against women, women and armed conflict, women and the economy, women in power and decision-making, institutional mechanisms for the advancement of women,⁸ human rights of women, women and the media, women and the environment, and the girl child.

¹ The Statement is available at <https://www.wmo.int/pages/prog/hwrrp/documents/english/icwedece.html>.

² At the Summit, the Johannesburg Declaration on Sustainable Development was adopted (United Nations, 2002a) and the Johannesburg Plan of Implementation was agreed upon (United Nations, 2002a).

³ The Convention is available at <https://www.ohchr.org/en/professionalinterest/pages/cedaw.aspx>.

⁴ The Convention is available at <https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>.

⁵ The Declaration is available at <https://www.ohchr.org/en/professionalinterest/pages/violenceagainstwomen.aspx>.

⁶ The Declaration is available at <https://www.ohchr.org/en/professionalinterest/pages/righttodevelopment.aspx>.

⁷ The opt-out clause of the Convention on the Elimination of All Forms of Discrimination against Women has led numerous countries to ratify the Convention subject to reservations and thereby not fundamentally adhere to it. In addition, while the Convention has strict, advanced monitoring procedures, they do not always lead to better implementation by countries of obligations under the Convention. For the status of ratification of the Convention, and the declarations and reservations noted by countries, see <https://www.un.org/womenwatch/daw/cedaw/reservations.htm>.

⁸ The Declaration is available at https://www.un.org/en/events/pastevents/pdfs/Beijing_Declaration_and_Platform_for_Action.pdf.

In 2002, General Comment No. 15 on the right to water was adopted by the Committee on Economic, Social and Cultural Rights of the United Nations Economic and Social Council.⁹ It stated that “the human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses”. In doing so, it became a precursor to the human right to water and sanitation.

In 2010, the United Nations General Assembly recognized “the right to safe and clean drinking water and sanitation as a human right”.¹⁰ Clean drinking water and sanitation were also acknowledged as essential to the realization of all other human rights. In 2015, the United Nations recognized the human rights to safe drinking water and sanitation as two distinct rights, while reaffirming that “both rights are components of the right to an adequate standard of living”.¹¹ In the same resolution, States were called upon “to promote both women’s leadership and their full, effective and equal participation in decision-making on water and sanitation management and to ensure that a gender-based approach is adopted in relation to water and sanitation programmes”.

General Recommendation No. 34 of the Committee on the Elimination of Discrimination against Women (CEDAW) of 2016 acknowledges the vital contribution of rural women and the urgent need to improve recognition and protection of their human rights. It refers directly to water in the call to States to address threats posed by climate change, natural disasters, land degradation, water pollution, droughts and floods, with the ultimate goal of ending discrimination in access to water and sanitation services (United Nations, 2016). Specifically, States are called upon to establish enabling frameworks together with proper monitoring mechanisms to ensure the participation of rural women in water-related decision-making and development strategies, to raise awareness of women’s rights to land and water, and to contribute to developing institutions and mechanisms for defending and monitoring the implementation of these rights.

2.2 Water, gender and sustainable development

The goal of gender equality and women’s empowerment in the water sector became an integral part of the broader aspects of development in 2000, when the United Nations Millennium Declaration was adopted and the Millennium Development Goals (MDGs) were established (United Nations, 2002a). Promoting gender equality and empowering women (MDG 3) was of particular relevance. An evaluation of the MDGs in 2015 showed that progress had been made in achieving gender equality in primary education and increasing the participation of women in paid employment and political representation (United Nations, 2015). However, the evaluation found that many gaps remained. This was particularly problematic in the water sector. Although MDG 7 included considerations for increasing access to drinking water and sanitation, targets were phrased and monitored in a way that was insufficient to ensure access to all. The report also recommended that gender perspectives be integrated fully into all goals of the post-2015 development agenda (United Nations, 2015).

As a follow-up to its predecessor (the Millennium Declaration), in 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development, which comprises a framework of 17 Sustainable Development Goals (SDGs). The 2030 Agenda includes one dedicated goal for women, “Achieve gender equality and empower all women and girls” (SDG 5), and the goal on water and sanitation (SDG 6) refers to “paying special attention to the needs of women and girls”. Indeed, women and girls are mentioned in the targets of most of the other SDGs. Nonetheless, the integration of gender aspects into the 16 SDGs other than the dedicated SDG 5 could have been more consistent given that women (and gender equality) are central to the fulfilment of all the SDGs (Oxfam, n.d.; the United Nations Development Programme (UNDP), 2018; UN-Women, 2014).

For instance, while SDG 6 makes explicit reference to women and girls regarding sanitation and hygiene (Target 6.2), it does not do so for access to water (Target 6.1), management of water resources (Target 6.5), protection and restoration of water-related ecosystems (Target 6.6) and participation of local communities in improving water and sanitation management (Target 6.b). These omissions neglect the fact that women are equally responsible for water provision, quality and preservation (and in practice possibly more so than men) but they remain underrepresented in water

⁹ General comment No. 15 is available at https://www2.ohchr.org/english/issues/water/docs/CESCR_GC_15.pdf.

¹⁰ Through resolution 64/292, available at <https://undocs.org/A/RES/64/292>.

¹¹ Through resolution 70/169, available at <https://undocs.org/A/RES/70/169>.

Box 1 The SDG 6 Global Acceleration Framework

Based on multi-stakeholder coordinated action, the SDG 6 Global Acceleration Framework is intended to speed up and scale up progress on the 2030 Agenda commitments. The Framework relies on four “action pillars” (UN-Water, 2020a):

- **Engage** – Improved engagement with country stakeholders
- **Align** – Alignment of the policy, financial and operational efforts for more efficient support to countries
- **Accelerate** – Acceleration of the progress in addressing the water commitments through five “accelerators” (Figure A) – financing, data and information, capacity development, innovation and governance.
- **Account** – Promote shared accountability through (i) better coordination among United Nations agencies; (ii) improved country support through optimized financial and operational approaches; and (iii) integration of “purpose-driven” collaboration into global, regional and country organizations.



Figure A. The SDG 6 Global Acceleration Framework action pillars. Source: UN-Water (2020a, p. 12)

governance, despite their crucial knowledge on water resources and the key role they play in engaging local communities in improving water and sanitation management (Oxfam, n.d.). Moreover, the indicators for SDG 6 do not require sex-disaggregated data, although the latter is key to monitoring progress on this goal towards gender equality. As a response, the SDG 6 Global Acceleration Framework (Box 1), coordinated by UN-Water, has included a specific guiding principle to address water-related challenges for women and gender equality (UN-Water, 2020a).

Numerous global and regional declarations, reports and international agreements have reaffirmed the crucial importance of the timely and effective fulfilment of the commitments made in the 2030 Agenda for Sustainable Development. For instance, the Commission on the Status of Women (CSW), the intergovernmental body dedicated to the promotion of gender equality and the empowerment of women, assesses progress towards – and takes action to accelerate – the implementation of both the Beijing Platform for Action and the 2030 Agenda. This is achieved through the adoption of multi-year programmes of work that address priority themes for discussion and the formulation of specific recommendations at its annual sessions, to accelerate the realization of gender equality and women’s empowerment.¹²

¹² More information is available at <https://www.unwomen.org/en/csw>.

2.3 Climate change impacts on water and gender equality

The urgent need to address gender inequalities concurrently with a rapidly evolving climate crisis is addressed at the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC), which has placed “gender and climate change” as a separate item on its agenda since 2013. Moreover, the global recognition that women faced different and often disproportionate challenges and constraints due to climate change-related disasters, and that environmental policies were gender-blind, contributed to the inclusion of gender equality considerations in the Paris Agreement, adopted by COP 21 in 2015.¹³

In 2017, a gender action plan was launched under the UNFCCC Lima work programme on gender (UNFCCC, 2017). In 2019, COP 25 adopted the enhanced Lima work programme on gender and extended the gender action plan for an additional five years with the aim to “advance knowledge and understanding of gender-responsive climate action and its coherent mainstreaming in the implementation of the UNFCCC” (UNFCCC, 2019a). This outcome, which was one of the few outcomes of the United Nations Climate Change Conference that year, was celebrated by civil society groups, especially the Women and Gender Constituency (Gender CC, n.d.).

The objectives of the current gender action plan are broader than those of the first plan, and include activities that go beyond capacity development and information exchange. Especially relevant is the integration of gender considerations into the plan of solutions, for example, gender-responsive technological solutions to address climate change. The gender action plan has a cross-cutting approach to understanding the various impacts that climate change has on people according to their gender, race, ethnicity, country of origin and age, among other factors (UNFCCC, 2019b). The enhanced commitments to gender equality and the expected activities included in the gender action plan will require robust financing and accountability mechanisms for their adequate implementation.

Furthermore, the United Nations Convention to Combat Desertification (UNCCD) – the legally binding international agreement that addresses the linkages between environment, development and sustainable land management – has highlighted the particular vulnerability of women and girls to climate- and human-induced land degradation. In recognition of the pivotal role of women in the implementation of UNCCD, a gender action plan was adopted to make the implementation of the Convention and its Strategic Framework more gender-responsive, while identifying key areas for enhancing women’s engagement.¹⁴

Despite the global commitments made towards gender equality and the proposed gender-responsive strategies, a clear gap remains between policy and practice in the water sector, with limited achievements so far. This is partly because many current policy and legal frameworks for gender equality are not specific to the water sector.¹⁵ There is thus an urgent need to enhance cross-sectoral communication and develop gender-responsive policy instruments tailored to the water domain.

¹³ The Paris Agreement is available at <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

¹⁴ A summary of the UNCCD gender action plan can be found at https://www.unccd.int/sites/default/files/documents/2018-01/GAP%20ENG%20%20low%20res_0.pdf.

¹⁵ The recent European Union Gender Action Plan III proposes actions to improve water and sanitation access. https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2184.

3

WATER AND WOMEN: CURRENT AND EMERGING CHALLENGES

In the 25 years since the Beijing Declaration and Platform for Action was adopted, progress has been made on gender equality and women's empowerment in water and sanitation, yet significant challenges remain. These challenges are discussed in this chapter, organized under the seven critical areas of concern of the Beijing Declaration and Platform for Action that have direct linkages to water and sanitation: human rights of women (section 3.1), women and health (section 3.2), women and the economy (section 3.3), women and the environment (section 3.4), women in power and decision-making (section 3.5), education and training of women (section 3.6) and institutional mechanisms for the advancement of women (governance in section 3.5 and data and funding in section 3.7).

3.1 Water: a basic human right

Safe drinking water and sanitation are fundamental human needs, and hence are considered human rights (OHCHR, 2015), which should equally include women. However, in the case of water and sanitation, these rights have often been overlooked or not explicitly considered. In fact, the importance of gender equality in accessing safe water and sanitation was specifically mentioned by the United Nations only in 2016, when the report of the Special Rapporteur on the human rights to safe drinking water and sanitation made the case for how to improve gender equality and overcome gender-based violence and constraints in the fulfilment of these rights (OHCHR, 2016).¹⁶ The report makes a distinction between gender issues of all different gender identities and those of women specifically. In 2019, the General Assembly of the United Nations adopted the first resolution on the human rights to water and sanitation that specifically mentions gender and women's rights.^{17,18}

A rights-based approach to water and sanitation should closely consider gender differences and inequalities. The principles to the human rights to water and sanitation cover:

- **Availability.** All people should have access to a constantly available supply of water, with a minimum of 50–100 litres per person per day being deemed sufficient for basic needs (drinking, hygiene, cooking, cleaning, washing and sanitation) (WHO, 2017). Near to the midterm of the 2030 Agenda for Sustainable Development, 2.2 billion people still lack access to drinking water and 4.2 billion people lack access to basic sanitation (UN Women/UN DESA, 2019; UNESCO/UN-Water, 2020a). As women and girls perform most of the work of collecting drinking water in those households that do not have a connection to running water, the lack of water access impacts heavily on their workload (UN Women/UN DESA, 2019).
- **Accessibility.** Water sources should be physically accessible, that is, within 1,000 metres of the home, and collection time should not exceed 30 minutes (WHO, 2017). These average figures do not, however, take into account terrain and topography (and thus difficulty in covering the distance), safety of the trip or quality of the water available. Worldwide, 263 million people must walk for more than 30 minutes to collect water from sources outside their homes (WHO/UNICEF, 2017) with women usually being the main persons responsible for this task.

¹⁶ The report of the Special Rapporteur mentions the need for a “transformative approach” that includes “challenging social norms, stereotypes and intra-household patterns” in addition to specifically addressing the water and sanitation needs of women (OHCHR, 2016: 1).

¹⁷ Through resolution A/74/PV.50, available at <https://undocs.org/en/A/74/PV.50>.

¹⁸ This meeting of the General Assembly of the United Nations (Seventy-fourth session, 50th plenary meeting, Wednesday 18 December 2019) was notable because all outcomes of the plenary, including reaffirming the Convention on the Elimination of All Forms of Discrimination against Women, were adopted.

- **Affordability.** Water should be affordable for all people, defining affordability according to what different groups of people/households can pay for water at reasonable costs to guarantee water access and quality. Affordability of all the costs involved in accessing water, e.g., connection costs, investments in the household, or purchasing drinking water, is often the largest barrier to access (United Nations, 2021). It is likewise important to note that the burden of securing water for millions of women and girls prevents them from getting involved in work opportunities, education and social protection (Lowe et al., 2019).
- **Quality.** Water should be of good quality. Developing, implementing and monitoring national standards for water has significantly contributed to assuring the safety of water for drinking and domestic use (UNW-DPAC, n.d.). Nevertheless, in 2017, 785 million people worldwide were still using unimproved water sources¹⁹ or surface water; approximately 144 million people around the world still drink untreated water from surface water sources, such as streams or lakes (UNICEF/WHO, 2019). The large majority of people still using unimproved water sources are in sub-Saharan Africa (51%), East and South-East Asia (20.5%), and Central and South Asia (18.5%) (UNICEF/WHO, 2019). In many poor urban and peri-urban areas worldwide, water may be accessible but unsafe sanitation may determine serious water quality issues to which women, as the main household water managers, are at significant risk. In addition, the challenge of providing clean water is exacerbated when water is scarce (as overall availability is lower and pollutants become more concentrated); this is increasingly the case under climate change conditions that induce prolonged droughts (Damania et al., 2019).
- **Acceptability.** Water should have an acceptable appearance, taste and odour. According to WHO (2017): “consumers may avoid aesthetically unacceptable but otherwise safe drinking-water in favour of more pleasant but potentially unsafe sources”.

The COVID-19 pandemic has dramatically shown that overcoming gender, poverty and minority inequalities in the water sector must be, more than ever, an urgent priority. Without access to clean water and sanitation, women, as important water providers, are affected differently and disproportionately, as principal caretakers of the sick and elderly in poor families, and when they are sole bread winners. In addition, there is strong evidence that domestic violence against women is on the rise in the wake of the pandemic. Many marginalized people – displaced people, refugees, many migrant workers, ethnic minorities and many people living with disabilities – may not have access to health services and may suffer discrimination if they become sick. Moreover, large numbers of people cannot afford to practise physical distancing and self-isolation, as poverty forces them to face the choice between hunger and homelessness, and a potentially deadly disease. Indeed, COVID-19 provides a clear illustration of how the pursuit of the 2030 Agenda must consider the interconnectedness between the issues addressed by the SDGs.

3.2 Drinking water, sanitation and health services

Safe water, safe sanitation and accessible hand hygiene are critical for protecting human health from infectious diseases, as dramatically demonstrated by the COVID-19 pandemic. The progress made in providing water, sanitation and hygiene (WASH) facilities and services over the last 20 years is visible, yet each year, lack of water, lack of sanitation and poor handwashing practices causes an estimated 30,000 deaths of women – generally primary caregivers – and 400,000 deaths of babies from preventable infections (WHO, 2017; WaterAid, 2019b). Every year, 775,000 people die owing to unsafe sanitation, which is the cause of 5% of deaths in low-income countries (Ritchie and Roser, 2019). Several infections related to poor WASH services and management significantly contribute to anaemia. These infections, including malaria, schistosomiasis and hookworm, affect all people, though pregnant women and young children are more susceptible (WHO/UNICEF, 2019). In addition to increasing the risk of infection, poor WASH services can have other impacts on people’s health. For example, it can increase the risk of musculoskeletal trauma through the need to fetch water (Geere et al., 2018), a task mostly carried out by women and girls in rural and low-income settings.

¹⁹ An unimproved drinking water source is one that by the nature of its construction does not adequately protect the source from outside contamination (in particular, faecal matter). Unimproved sources include unprotected (dug) wells, unprotected springs, carts with small tanks or drums, water tankers, surface water (rivers, dams, lakes, ponds, streams, canals, irrigation channels) and bottled water (because of the potential limited quantity of water available to a household through this source, not because of its quality) (WHO/UNICEF, n.d.).

“Improved drinking water sources are those which, by nature of their design and construction, have the potential to deliver safe water. The JMP subdivides the population using improved sources into three groups according to the level of service provided. To meet the criteria for a safely managed drinking water service, people must use an improved source meeting three criteria: (1) it should be accessible on premises; (2) water should be available when needed; and (3) the water supplied should be free from contamination. If the improved source does not meet any of these criteria but a round trip to collect water takes 30 minutes or less, then it will be classified as a basic drinking water service. If water collection from an improved source exceeds 30 minutes it will be categorized as a limited service.” (WHO/UNICEF, n.d.)

In health-care settings, the lack of safe WASH facilities has a dramatic impact on the health of patients. Infections can spread between patients and caregivers when there are poor or no hygiene facilities. Contaminated water in neonatal care units has been linked to outbreaks of sepsis, a significant cause of maternal and infant mortality (Ainsworth and WHO, 2004). Currently, more than 1.5 billion people have no access to sanitation at the health-care facilities they use, and one out of every six health-care facilities has no designated handwashing station (WHO/UNICEF, 2019). This inadequacy places a disproportionate burden on poor women and girls when they are the primary caregivers in their households and in poorly equipped health centres. Women make up the majority of front-line workers in health-care settings, as more nurses, midwives and attendants are female (George, 2008).

Deficient WASH infrastructure compounds with poor WASH services to impact on women. For example, lack of electricity at health-care facilities makes water pumps stop working and thereby disrupt services. Poorly lit latrines expose women and girls to an increased risk of sexual assault and violence, with the associated psychosocial stress leading to the disuse of such inadequate public WASH facilities (Baker et al., 2017; Caruso et al., 2017; Hullah et al., 2015; Winter et al., 2019). As a result, poor women and girls, particularly in rural areas, may prefer open defecation, potentially leading to poor health and trapping them in poverty. In low- and middle-income countries, preterm birth and low infant birth weight are associated with inadequate WASH for pregnant women, such as distant water sources, poor availability of sanitation facilities (leading to open defecation or latrine sharing) (Caruso et al., 2017; Padhi et al., 2015) and unsafe facilities (at which women may be harassed) (Baker et al., 2018; Olusanya and Ofofwe, 2010; Padhi et al., 2015).

Not only a lack of adequate sanitation facilities but also a lack of access to clean drinking water may leave women and girls more vulnerable to sexual abuse. One such type of abuse is the phenomenon of 'sextortion' as discussed in Box 2.

Box 2 Water-related human rights violations: sextortion

One type of human rights violation that occurs in the water domain and is not well known involves sextortion, a form of corruption and sexual exploitation in which sex is requested instead of money as payment for goods or services – in this case water. The person who suffers sextortion often does not have the financial means to pay, and is requested to provide sexual favours in place of money, otherwise the service is denied to them (Avello, 2018). The phenomenon has been observed in areas where water, sanitation and hygiene services are inadequate, forcing women and girls to fetch water outside the home or purchase it from vendors. Examples of such cases have been reported from Bogotá, Johannesburg and Kenya (UNDP-SIWI Water Governance Facility, 2017).

Sextortion is not mentioned in the United Nations Convention against Corruption,^a and it is not monitored in international or national surveys on sexual violence.^b The lack of awareness about sextortion not only silences the people and keeps them from seeking redress, it also fosters a culture of impunity for perpetrators. The fact that women do not denounce these crimes and do not seek redress may be more severe for women who are poor and those who live in rural areas, refugee camps or areas affected by natural disasters, where they are responsible for getting water and ensuring subsistence for their families and are more exposed to corruption related to water, food, health care and education.

^a The Convention is available at https://www.unodc.org/unodc/corruption/tools_and_publications/UN-convention-against-corruption.html.

^b Global and national monitoring is available at <https://evaw-global-database.unwomen.org/en>.

Menstrual health and hygiene is problematic when indoor sanitation facilities do not have safe water and separate latrines, forcing women and girls to manage their menstruation outdoors. Globally, at least 500 million women and girls lack adequate facilities for menstrual hygiene management²⁰ (World Bank Group, 2017a). The health-related consequences of poor menstrual hygiene practices include urinary tract and other urogenital infections. In Africa, for example, women and girls who cannot meet their menstrual hygiene management needs are more at risk of engaging in unhealthy sexual relations, having unplanned pregnancies and contracting human immunodeficiency virus (HIV) (Ranganathan et al., 2018). A study of menstruating women in rural Western Kenya found some young women self-reporting transactional sex to obtain sanitary pads (Phillips-Howard et al., 2015).²¹ When these women and girls also live with disabilities, they are subject to greater disadvantages and vulnerabilities for managing their sanitation and menstrual hygiene needs (World Bank Group, 2017b).

²⁰ Menstrual hygiene management can be defined as follows: "women and adolescent girls using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water for washing the body as required, and having access to safe and convenient facilities to dispose of used menstrual management materials" (WHO/UNICEF, 2017).

²¹ While in the sample of 3,418 girls interviewed, only 1.3% reported transactional sex for pads, 10% of the 15-year-old girls interviewed reported this situation.

In a number of countries, menstrual hygiene products are taxed as a luxury item alongside alcohol, tobacco and jewellery. The taxes to be paid on these products are significant given that a healthy woman will have an average of 451 menstrual cycles in her lifetime (Chavez-MacGregor et al., 2008). The need for these products increases the financial burden on women, especially resource-poor women and vulnerable women in situations such as incarceration and homelessness (Vora, 2016). Some countries – for example, Ireland, Lebanon, Scotland and United Republic of Tanzania – have abolished the tax. In others, the tax rate is still high: Mexico (16%), Hungary (27%), Sweden (25%) and the United States of America (up to 10%) (Choi, A., 2020).

When schools have inadequate WASH resources, the attendance of girls is significantly affected, and the number of female teachers able and willing to work at them is also impacted. In 2016, globally, 69% of schools had an improved source of drinking water and 66% had improved single-sex sanitation facilities, but as few as 53% had handwashing facilities (UNICEF/WHO, 2018). The number of schoolchildren lacking access to drinking water, a sanitation service and handwashing facilities was 570, 620 and 850 million, respectively (UNICEF/WHO, 2018).

3.3 Work in the water domain

Women most visibly participate in work related to domestic water, but they are also heavily involved in water for livelihoods, e.g., agriculture, care, hospitality, and micro and small businesses (UN Women, n.d.). A large part of women's work in the water domain is unpaid (AquaFed/WFP, 2016; UN Women, n.d.). Recognizing this unpaid work is key to achieving gender equality and a better management of water resources as well as a fairer distribution of work. Importantly, a fair payment to women working in the water domain will also more transparently include this sector in the GDP.

Domestic water-related work

It is well established that women and girls worldwide take on a disproportionately high share of unpaid care and domestic work. In most low-resource settings, women have a prominent role in managing their household's water, and in many cases also in taking care of community water and sanitation services and facilities (UN Women/UN DESA, 2019). This responsibility is difficult and time-consuming, considering that these women have inadequate access to improved water and sanitation themselves. Cultural factors such as socially assigned roles and responsibilities continue to adversely affect the access to water and sanitation services by women and girls (WHO, 2014).

The lack of a clean water source that is close to their home deprives female farmers of valuable time that could be invested in productive activities such as educating themselves and improving their crop production techniques, which in turn would help advance their capacity for farming entrepreneurship and their economic autonomy (IFAD 2007). Rural women in low-income countries work for up to 16 hours in a typical day, sometimes even longer, and perform multiple tasks in the household and on the farm. In many places, cultural norms exacerbate the unbalanced workload between men and women. In Algeria and Pakistan for example, rural women perform about five hours of unpaid domestic work a day, while men do less than one hour (IFAD, 2016).

When water is scarce, the traditional responsibility of women and girls to secure water for the family becomes more time-consuming and a limiting factor to achieving gender equality. When resource-poor women need to fetch water for domestic uses, they tend to reduce the time spent on education and income activities (Thompson et al., 2017). In a survey conducted to gain an understanding of the impact of water scarcity on the education of young girls in Ethiopia, 45% of families attributed difficulty in accessing water as the reason for not enrolling their daughters in school. For those young girls who were enrolled, the average three to four hours per day fetching water resulted in a high rate of late arrival and a high rate of absence (37–51 days per school year), as well as poor participation in class (Demie et al., 2016).

The responsibilities women have regarding domestic work, including water collection, negatively impact the time – either by choice or by stereotypes – they can dedicate to performing public roles in water management, and thereby exclude them from water-related decision-making. It is notwithstanding important to note that the time women could save by merit of improved water infrastructure projects might not be necessarily translated into paid employment, or benefit all women equally (Das, 2017).

Agricultural water-related work

In 2018, an estimated 106.35 million women were employed in agriculture, representing 32% of all the people employed in the sector globally,²² with important variations between countries and regions. This estimate may increase considerably when including the unpaid participation of women in farming. Regional and country variations are significant. For example, the paid and unpaid work of women in farming accounts for 55.3% of the farm work of all people in Turkey, 53.2% in Morocco, 50.7% in Egypt, 40.7% in Lebanon, 34.7% in the Sudan, 30.7% in Iraq and 28% in Mauritania. In Syria, women account for 44.4% of wage labourers and 60% of unpaid labourers in agriculture, and in Tunisia, 34.7% of total temporary paid labourers in the sector are women (Amin et al., 2009). The labour force participation rate for women in Pakistan is 18.93%, while that for men is 71.97% (Zaheer et al., 2014). The work done and time spent on the farm differs by gender and age, and is heavily influenced by the cultural division of labour. Women are involved in all types of farming – from (cash) crop to livestock and fish farming – at both the subsistence and commercial levels. However, data on female farmers are limited and usually derived from surveys at the household level, which are generally provided by the head of the household, usually a male. Women involved in farming most often carry out their work within the family production unit, making it hard to distinguish the particular activities they carry out. Moreover, most of the existing female farming data are collected for households with women as their heads, hence not representing all women working in farming.

An estimated two-thirds of the world's 600 million poor livestock keepers are women (FAO, 2011a; Njie and Ndiaye, 2013). Women's contribution to agriculture remains to be included in statistics that provide a transparent account of the situation, but the statistics show some sign of improving. For example, a 1999–2000 labour force survey in Pakistan initially excluded women who reported house care and other domestic tasks as an occupation; however, a more recent iteration of the survey included women engaged in a variety of specific agricultural and non-agricultural activities under the category of “increasing women's participation rate” (Amin et al., 2009). Having this category led to a significant difference between the more recent and original data collected on the work of women in agriculture.

Despite their heavy involvement in agricultural work and hence high level of water and land management skills, women and indeed smallholders are often disadvantaged when it comes to water allocation rights and subsidies for irrigation water. This usually happens because water rights are tied to land rights, and gender inequalities in land access and ownership are persistent. In most countries, land and water rights are closely related, often making it difficult for women to access water as they usually do not own land on equal terms as men. In many countries, women are not granted the same inheritance rights as men. For example, in many places, widows and daughters do not inherit the same proportion – or none at all – of assets, including land, as do sons (World Bank Group, 2018). In sub-Saharan Africa, only 15% of land is managed by women (GGCA, 2016). In South-East Asia, only 13% of landowners in India, 11% in the Philippines and 9% in Indonesia are women (FAO, 2010).

These gender-based differences in land and water rights are exacerbated when available agricultural land is reduced owing to increasing population rates and expanding urban frontiers, along with a reduction of available water owing to climate change impacts such as extreme weather. Under these circumstances, households, entire communities and indeed the agriculture sector and the economy as a whole may be affected, but it is particularly women, especially in the global South, who are placed in a highly vulnerable position when their livelihoods are threatened and their economic opportunities shrink.

It has been estimated that providing women with equal access as men to resources, especially agricultural water, would result in a 20–30% increase in farm yields, in turn resulting in a 2.5–4.0% growth in agricultural output of several developing countries studied, and reducing the number of hungry people in the world by 12–17% (FAO, 2011b).

In addition to these challenges, women often own land of a smaller size and an inferior quality than do men, and they often face more difficulties than men to access agricultural extension services and education (FAO, 2017a). Moreover, they usually face more challenges and unequal opportunities in accessing and benefiting from irrigation technologies, as demonstrated in research conducted by the International Food Policy Research Institute (IFPRI) in Ethiopia, Ghana and the United Republic of Tanzania (Theis, 2019). While women are rarely involved in water management and governance on an equal footing with men, they overwhelmingly carry the burden of accessing inconvenient or inadequate infrastructure (FAO, 2016).

²² Data obtained from FAOSTAT, the database for FAO's food and agriculture data. Available at <http://www.fao.org/faostat/en/#data/OE>. (Accessed 18 December 2020).

For all of the reasons discussed above, in vast areas of the global South, women and their dependents are more likely to be affected by food insecurity and malnutrition. In 2019, 144 million (21.3%) children under the age of five suffered from chronic undernutrition and 57 million (6.9%) from wasting (low weight for height) (FAO/IFAD/UNICEF/WFP/WHO, 2020).

Jobs in the water sector

Three out of four jobs that make up the global workforce are directly or indirectly dependent on water. Water-related jobs in the water sector include water resources management, ecosystem restoration and remediation, infrastructure building and maintenance, the provision of sanitation services (sewerage and waste management), as well as in national and local government positions (UNESCO/UN-Water, 2016). Women are disproportionately underrepresented in water-related jobs, and they face obstacles at multiple levels when they seek a career in the water sector (Das, 2017). Contributing factors are multiple and usually related to unbalanced distribution of domestic tasks and responsibilities between men and women, and persistent social norms that disadvantage women (Box 3).

Box 3 Challenges to fair participation of women in water management work in the LAC region

The participation of women in water-related tasks from securing drinking water up to leading water institutions is shaped by diverse challenges. The responsibilities for collecting water and looking after household and family members fall mainly on women due to the unfair division of labour in both rural and urban areas of the LAC region. For example, 68.7% of women in urban areas are responsible for collecting water in Paraguay, 54.2% in El Salvador, and 53.7% in Panama (Borja-Vega and Grabinsky, 2019). In Cochabamba, Bolivia, women are much more likely to spend time searching for available water vendors than men (Wutich, 2012). Given the lag in infrastructure in rural areas, women are particularly burdened with these tasks.

Including a gender perspective in water management in the region is a key issue that should not be lacking in planning processes, be it of coverage infrastructure or productive uses of water. The low female participation in land and water ownership, consultation, design and operation processes related to water management continues to be a major challenge. For example, in Central America, water management, both surface and underground, is carried out through water users' associations, water boards or water committees at the municipal level. From the recorded 1,120 people involved in those local governance instances, only 27% are women (UNESCO, 2016). The participation of more women is not only needed at the local governance levels; greater female participation in institutions and organizations at the national and regional levels is a pressing need as well. However, even when there is representation of women, gender norms may influence whether this participation leads to a greater voice in terms of women's ability to express their views, influence agendas and take part in final decisions (Parthasarathy et al., 2017).

Data from a human resource assessment undertaken in 15 countries and reported in the *United Nations World Water Development Report 2016* suggest that women comprise less than 17% of the total paid workforce in the water sector (UNESCO/UN-Water, 2016). This number is even lower when considering only technical experts, managers, regulators and policy-makers, of which women make up merely a fraction (Trivedi, 2018). An extensive World Bank study on women in water utilities found that women make up less than one in every five paid workers at the 96 water and sanitation utilities in the 33 countries surveyed.²³

The participation of women in jobs in the water sector appears to be affected by traditional gender roles, cultural norms and stereotypes, occupational segregation and the small proportion of female graduates in STEM areas (SaciWATERS/SOPPECOM, 2011; Das, 2017; World Bank Group, 2019) (see Box 3 for examples in the Latin America and the Caribbean (LAC) region). In particular, the small number of women in leadership roles in the water services industry and river basin authorities may largely be explained by the scarcity of women water professionals, entrenched cultural values and traditional attitudes, gender stereotyping, and false perceptions that women lack managerial and technical skills.

Many current workplace policies and practices in water agencies, such as low awareness of when a situation can be considered sexual harassment, stereotyping in the workplace, and the lack of enforcement of anti-sexual harassment measures act as barriers to women rising to decision-making roles within these agencies (WSUP, 2020). In addition, even

²³ The latest update of the dataset can be accessed at <https://wbwaterdata.org/breakingbarriers/home/>.

when doing a similar job as men, women employed in the water sector face a pay gap: men's average wages are 27% higher than women's in water utilities (World Bank Group, 2019). This pay gap may be attributed, among other factors, to (real and perceived) discrepancies in skills and the large barriers faced by women in entering leadership positions (World Bank Group, 2019). All the aforementioned factors lead to women themselves often not seeing the water industry as one that is suitable for them to be employed in, or one in which they can grow and have a future, thereby reinforcing a vicious circle.

There has been some promising progress in the representation of women as water professionals. According to the World Bank study referred to above, the proportion of female workers in water utilities increased from 13% to 22% between 2011 and 2016 (World Bank Group, 2019). Despite this positive trend in gender parity, it should be noted that men held their positions for an average of 11.3 years compared with 10.1 years for women. When considering more technical positions such as engineers, the study showed that female engineers had on average been with their company for a considerably shorter period than male engineers – 5.8 years for women versus 8.5 years for men. A similar trend was observed for managers: women had been in their position for 8.6 years versus 10.6 years for men (World Bank Group, 2019). Possible causes for women leaving earlier than men could be a lack of flexibility in the job to balance work and caregiving, a sense of alienation in the male-dominated environment, inadequate facilities (e.g., no separate toilets or fitting rooms for women, lack of sanitary amenities), insufficient appropriate equipment (e.g., shoes, helmets and other clothing not designed to fit women) and sexual harassment. While numerous women organisations have started to support and mentor women working in the water sector, these organisations usually lack funding and resources; public awareness of these issues and interest in supporting them is also usually low.

3.4 The impact of climate variability and change








The negative impacts of climate change on water are widespread and are expected to disrupt humanity's progress in most aspects of economic and social development (World Bank Group, 2016). For instance, climate change affects the quality and quantity of water available, threatening the effective enjoyment of the human rights to water and sanitation of potentially billions of people. In addition, it is expected that climate change will intensify water scarcity due to the overexploitation of existing freshwater resources, which can be worsened by the lack of proper infrastructure and regulation (WaterAid, 2019a).

Climate change exerts disproportionate pressure on women and girls, who tend to be financially less secure and have less power than men, especially in low-resource countries. Such disproportionate impacts of climate change on women are acute in both rural and urban areas. In both settings, water availability for service provision may be significantly impacted. Because women are largely responsible for securing basic household needs, they are directly and severely affected when climate change places their water, food and energy security, as well as economic prospects, at risk. For example, research in Uganda estimates that a household without water on premises spends 13% more time collecting water during a drought year than in a non-drought year (Kamei, 2020). In other words, climate change and related rainfall variability directly affects women, considering their significant role in securing water, and the resulting increase in time spent fetching water.

Furthermore, climatic variabilities attributable to global warming may put the livelihoods of farmers at great risk, which is a particularly acute issue in rural areas. While farmers always need reliable access to water and land and to gain appropriate knowledge and skills during times of environmental change, they also need to increase their adaptive capacity to ensure reliable and sustainable production (FAO, 2017b). Despite the fact that in many parts of the world, women farmers are crucial to securing the livelihoods of millions of rural households, many women have restricted entitlements to agricultural resources, including land and water, and therefore face greater constraints than men in generating income. As such, climate change impacts can strain the resilience of their households.

Poor women who are dependent on agriculture as their primary source of income can experience the shock effect of environmental extremes differently and more severely than men (see Figure 1). The reasons for this are many and include differences in human capital (literacy, education, skills), in social capital (quality of informal and formal institutions and networks) and in access to technology (FAO, 2017b). Social norms and discrimination against women are also endemic contributors. Not just women, but entire vulnerable groups may be subject to disproportionate impacts with respect to climate change. Women that belong to such groups, such as indigenous peoples, are likely to suffer intersecting vulnerabilities, as illustrated in Box 4.

Figure 1 Gender-differentiated impacts of climate change on women

Climate change impacts		Impacts exacerbate gender inequalities
Crop failure		Household fuel provision; increasing work load
Fuel shortage		Household fuel provision; more time for fuelwood collection
Water scarcity		Household water provision; contaminated water; more time for water collection
Natural disaster		Women's greater incidence of mortality
Disease		Lack of access to health care; women's burden as care givers
Displacement		Forced migration increases women's vulnerability
Conflict		Loss of lives; violence against women

Source: Based on FAO/World Bank (2017, fig. 3, p. 11, based on source cited therein).

Box 4 Climate change impacts on indigenous communities

Indigenous people account for 5% of the global population (some 370 million people). While indigenous communities may be found in more than 90 countries, approximately 70% of the world's indigenous people live in Asia (Amnesty International, n.d.). Indigenous communities usually have traditional knowledge on natural resources management that they have inherited, built on and passed along through many generations.

Those indigenous communities that primarily depend on natural resources for their livelihoods suffer greatly from climate change and its related disasters, and they are particularly vulnerable to the effects of climate change and climate extremes on water resources. In acknowledgement of this, the 2030 Agenda for Sustainable Development makes a call to actively engage indigenous people in implementing the Sustainable Development Goals (UN DESA, 2021). These considerations are specifically made in Goal 2 on Zero Hunger (target 2.3) and Goal 4 on Education (target 4.5) (United Nations, n.d.).

Being a woman and also belonging to an indigenous community may further exacerbate the challenges of climate change. Within many indigenous societies, women are more vulnerable than men when it comes to water-related challenges, and may face multiple, intersecting forms of discrimination. In line with this, particularly young adolescent girls, pregnant and lactating women, and migrating women are among the most vulnerable persons within indigenous groups.

Water-related climatic extremes and disasters such as droughts, hurricanes, storms and floods may result in people deciding voluntarily to migrate or in people being forcibly displaced. In fact, extreme weather events are often drivers of displacement for immediate survival when people cannot find ways to adapt to the changing conditions (IPCC, 2014). These situations may also fuel conflicts caused by food scarcity and hunger, and the depletion of natural resources (FAO/IFAD/UNICEF/WFP/WHO, 2017c; UNESCO/UN-Water, 2016). People moving elsewhere can take on the form of long-term migration (transnational, regional, international), or seasonal or circular (internal) displacement. The latter is well known in the agriculture sector as an effective coping mechanism. Most often, it is men who migrate in search of seasonal work (Miletto et al., 2017). However, overall, women comprise almost half of all international migrants.²⁴

In 2015, 19.2 million people were recorded as newly displaced owing to environmental factors and climatic disasters (IDMC, 2016). By 2050, it is expected that about 150–200 million people will be permanently displaced because of droughts, floods and hurricanes, and that more than 143 million people from sub-Saharan Africa, South Asia and Latin America will migrate as a result of the effects of climate change, most notably water scarcity (FAO/IFAD/IOM/WFP, 2018). However, data on climate-induced and water-related displacement are scarce, as they are not usually recorded as environmental displacements but rather as displacements caused by unqualified economic reasons. Water scarcity as a driver of migration is not always recognized; for instance, the United Nations Global Compact for Safe, Orderly and Regular Migration does not mention it (United Nations, 2018).

Most countries with a high risk of internal displacement due to climate-related disasters are located in South and South-East Asia (eight out of the ten most at-risk countries are located in these two regions) (IDMC, 2016). Central America and the Caribbean are also prone to the effects of climate extremes, as well as earthquakes. For example, in 2018, Haiti was severely affected by periods of drought and floods caused by the El Niño/Southern Oscillation phenomenon and a devastating earthquake resulting in the displacement of several thousands of people (OCHA, 2019). As a result of such events, people may be forced to spend prolonged periods of time in refugee camps. During forced displacements, women are much more impacted than men by the lack of adequate water, sanitation and hygiene (WASH) facilities (IFRC, 2007; UN Women, 2016). Most of the time, it is difficult for women to safely access drinking water and sanitation facilities in refugee camps, and this has a great impact on their health (Boyd and Grieco, 1998; Miletto et al., 2017). In refugee camps, women may struggle to get water not only for hygiene purposes but also for preparing food.

Women may be subject to additional layers of constraints and burdens when they migrate in response to climate change. They may be exposed to sexual harassment, hazardous jobs and trafficking. A study on the effects of drought in India concluded that migration, remarriage or sex work were the only options left for Indian women made destitute because of their gendered vulnerability to drought (Enarson, 2000).

Women who stay behind when their husbands migrate due to drought are burdened with an increased workload due to scarcer water and more difficulties in maintaining their livelihoods. The stress upon the women left behind intensifies as their family agricultural work and their household responsibilities increase. These competing tasks further reduce women's possibilities of participating in income activities of their choice and receiving additional education and training (Caretta and Börjeson, 2015; Djoudi and Brockhaus, 2011; Miletto et al., 2017; GGCA, 2016). Because they have less social and political power in the water sector, many non-migrant women have poorer access to water when they are alone (IOM, 2008). In some countries, the impact of male migration on women's agricultural work can be significant in terms of increasing women's already heavy workload, such as in India (Jain and Anand, 2020).

In cases where the participation of women in water management is limited or absent, the sustainability and functionality of local water management institutions is jeopardized when men migrate due to the reduced participation of water users in irrigation scheme maintenance and payment of water fees. On the positive side, sometimes women left behind, in the absence of their husbands and fathers, can become empowered leaders of their own communities. They may gain increased decision-making power, improved mobility and freedom of movement, as well as a greater ability to independently manage the household and its resources (Ullah, 2017).

The Sendai Framework for Disaster Risk Reduction 2015–2030 recognizes the need for investigating the gender dimensions of disaster risk reduction (UNDRR, 2015). Nevertheless, sex-disaggregated data on women's participation in national disaster risk management and safety processes are very limited. No international standard or authority has been set up for collecting these data or for assessing the gender-responsiveness of disaster risk reduction policies and national strategies (data2x and Grantham, 2020).

²⁴ According to UN DESA (2019), the share of women in the total number of international migrants fell from 49.3% in 2000 to 47.9% in 2019.

3.5 Water governance

The needs for increasing the presence of women in power, increasing their power in decision-making and for advancing women through institutional mechanisms must be taken into consideration in water governance approaches. Indeed, these considerations have been defined under the unifying concept of integrated water resources management (see Box 5).

Box 5 Water governance and integrated water resources management

Policy frameworks for water management are provided through governance, which has been recognized as a priority for policy-makers and resource partners in the water sector (OECD, 2018; World Bank Group, 2020), and has in turn influenced the funding priorities of international development agencies and governments. In this paper, water governance and water management are understood according to the UNESCO/International Bureau of Education definitions of the terms (UNESCO/IBE, n.d.).

Governance refers to “structures and processes that are designed to ensure accountability, transparency, responsiveness, rule of law, stability, equity and inclusiveness, empowerment, and broad-based participation. ... Governance systems set the parameters under which management and administrative systems will operate. Governance is about how power is distributed and shared, how policies are formulated, priorities set and stakeholders made accountable”.

Management primarily refers to “the planning, implementation and monitoring functions in order to achieve pre-defined results. Management encompasses processes, structures and arrangements that are designed to mobilize and transform the available physical, human and financial resources to achieve concrete outcomes. Management refers to individuals or groups of people who are given the authority to achieve the desired results”.

Integrated water resources management is defined by the Global Water Partnership as “a process which promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems and the environment” (GWP, n.d.).

A recent United Nations Economic and Social Council (ECOSOC) study revealed that 61% of countries support women’s participation and leadership in environmental and natural resources management and governance – this support is especially high in Oceania (90%) and Latin America and the Caribbean (80%) (ECOSOC, 2019). The report indicates that actions of support focus on increasing the participation and decision-making power of women in areas of agriculture and natural resources management at the local levels. Yet, the 39% of countries that do not provide such support illustrate the challenge for gender equality. In some countries, a minimum membership of women on relevant boards and committees has been called for; for example, 40% on protected area management boards and water committees, 30% on local planning and forest resources management committees and 50% on local natural resources management committees (ECOSOC, 2019).

One key contributor to the persistence of gender inequalities and the under-representation of women at various levels and in different fields of the water sector is the lack of adequate frameworks for ensuring gender-responsiveness in water governance. The existing international and national policy frameworks fall short in ensuring women’s engagement in local, national and regional/transboundary water governance and therefore fail to advance gender equality in the water sector (see chapter 1 and Box 6). The reasons for this are many but mainly revolve around a continuing discrepancy between water policy and implementation measures (Fauconnier et al., 2018; UN Women/UNESCO WWAP, forthcoming). A policy survey conducted in 2013 by the Global Gender Office of the International Union for Conservation of Nature (IUCN) and Women for Water Partnership (WfWP) found that of the 65 countries surveyed, only 35% had a gender focal point in their environment ministries and even fewer – 22% – had one in their water ministries (Fauconnier et al., 2018). The IUCN Environment and Gender Index²⁵ survey conducted in 193 United Nations Member States and their 881 environment-related ministries found that only 12% of these ministries were led by women.

²⁵ The IUCN Environment and Gender Index (EGI) is an independent monitoring mechanism that adds the environmental aspect to global gender indexes and reports and helps transform global agreements such as the Convention on Biological Diversity, the UNFCCC, the Convention to Combat Desertification and the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) into progress for women (IUCN/EGI/UN Women, 2015).

3.6 Water education and training

Owing to the diverse constraints and discrimination that many women and girls face to access and stay in primary and secondary education, many women lack adequate skills and opportunities to access formal and informal water education and training. Likewise, biased social norms, low educational levels and restricted personal mobility determine that many women and girls have more limited access to communication means and information than men, because of the gendered use of technology (Box 7). This is particularly problematic for rural women and resource-poor women who need to successfully manage water.

Box 6 Women in transboundary water governance

In an increasingly interconnected world, transboundary water governance is of the utmost importance for sustainable development and the fulfilment of the commitments under the Sustainable Development Goals. The potential role of women in transboundary water governance has been historically overlooked despite the fact that their inclusion could lead to more cooperative and inclusive decisions in the transboundary water agenda (Fauconnier et al., 2018; UNEP/UN Women/PBSO/UNDP, 2013).

Women are generally underrepresented in the institutional bodies that manage transboundary waters, as surveys carried out by the UNESCO World Water Assessment Programme (WWAP) for the Governance of Groundwater Resources in Transboundary Aquifers (GGRETA) project in three transboundary aquifers found:^a

- Central Asia, Pretashkent aquifer. In Kazakhstan, only 20% of the paid positions in local water governance institutions (e.g., water users' associations) are held by women.
- Central America, Ocotepeque-Citala aquifer. Honduras and El Salvador share the aquifer, and gender considerations have been included in the new cooperation agreement for management of the aquifer as an example of good practice in transboundary groundwater policy.
- Southern Africa, Stampriet aquifer. Women form only 27% of the local water governance members in user associations, water boards and water committees in the region's municipalities. However, it is encouraging that women make up 59% of the elected local councillors for water, sanitation and hygiene.

^a Source: Governance of Groundwater Resources in Transboundary Aquifers (GGRETA) (UNESCO, 2016). Accessible at: https://www.un-igrac.org/sites/default/files/resources/files/Rapport_general_GGRETA_web.pdf.

Box 7 Women and the digital divide

Technology, the Internet in particular, is a critical tool for delivering education and sharing knowledge; as such, it is critical to achieving global goals for gender equality and the empowerment of women and girls. Innovative tools which citizens can make use of are being employed for the monitoring and assessment of water resources. A persistent gender gap in access to information and communication technologies may exacerbate the existing gender gap in water-related knowledge and skills.

Inadequate skills, lack of opportunities and discrimination (or the fear of it) may hold girls and young women back from using technology, deepening the gap between men and women in digital access. Not only does this 'digital divide' or 'technology gap' prevent girls and women from participating equally in increasingly digital societies, it also potentially negatively affects economic development (Mlambo-Ngcuka and Albrechtsen, 2020).

Globally, Internet use by women is estimated to be 10% lower than that by men (ITU, 2019). There has been a narrowing of the gap around the world since 2013 in the countries of the global North, whereas it has widened in regions of the global South, with Africa presenting the wider gap. In 2013, Internet use by women was 20.7% lower than that by men in Africa and this figure rose to 33% in 2019 (ITU, 2019). The reason for this growing gender gap is the greater increase of the number of male Internet users in countries of the global South (ITU, 2019). "In low and middle-income countries, 433 million women are unconnected and 165 million fewer women own a mobile phone compared with men." (Mlambo-Ngcuka and Albrechtsen, 2020).

Despite a closing of the Internet access gap between men and women in developed countries with increasing Internet penetration, a 'second-order' digital divide related to use and skills has been remarked. The latter is evident through women's lower frequency of use, more limited diversity of online activities and a reporting perception of more limited skills, even if shown to be equally skilled (Kashyap et al., 2020).

Stereotypes and social norms surrounding the participation of women and girls in education and training are prevalent and consolidate the gendered roles, responsibilities and workloads of women in the domestic sphere (Khosla et al., 2004). For example, most education and training on wastewater management in households and on public toilet hygiene is aimed at women; men are not urged to change their behaviour in order to share responsibility for hygiene in their families (Khosla et al., 2004). In addition, the lack of WASH education and training in schools in poor areas, undermines the capacity of girls to better protect themselves from harassment, cope with menstruation and avoid contracting water-related diseases (Kaur et al., 2018).

Women have a lower participation in academic and research careers in water-related disciplines while this community is dominated by men in many countries (UNW-DPC/UNESCO, 2015). For example, a study conducted by the Global Water for Sustainability Program at Florida International University on the actual capacity situation and capacity development needs related to integrated water resources management in Rwanda found a gender gap. At the time of the study, no women in Rwanda held an academic degree in emerging disciplines such as water resources economics, hydroinformatics, econometric modelling, hydrobiology, environmental and water law, hydrogeology, limnology and international water affairs (Garland, 2012). These results highlight the challenges that women face in advancing their studies in disciplines needed in the water sector in Rwanda, a situation that is not atypical of other countries in Africa. In Argentina, a recent study found a gender gap in enrolment and graduation in university careers that study water resources; fewer women choose careers directly linked to hydrology, water supply and demand, and hydraulic infrastructure (Imburgia et al., 2020).²⁶

A skills gap exists at all levels in the water sector, worldwide. This gap is mostly caused by the lack of sufficient and adequate educational programmes, in particular at the post-graduate level, in developing countries. Many young university graduates travel abroad to complete their education and gain much needed professional skills, but social and financial restrictions may make it more difficult for women to do so, putting them at a disadvantage when competing for higher-level positions or positions needing specialized knowledge. This in turn could contribute to keep the average salaries of female professionals lower than those of their male co-workers. All these factors contribute to the structural challenges that women face to develop professional careers in the water sector (IWA, 2016).

3.7 Enabling environments for gender equality in water: data and funding

Despite the progress achieved in gender equality and the empowerment of women in the last 25 years, gender mainstreaming in the water sector remains low, and monitoring and evaluation processes fall short in revealing the underlying gender and power dynamics within water resources management (GWP, 2017; UN Women/UNESCO WWAP, forthcoming).

Disaggregated water and gender data

One major barrier to achieving gender equality and the empowerment of women in the water sector is the lack of sex-disaggregated water data, including both quantitative and qualitative information and analyses (Miletto et al., 2019; UN Women/UNESCO WWAP, forthcoming). Globally, nearly 80% of countries regularly produce sex-disaggregated statistics on mortality, labour force participation, and education and training, but less than 33% of them do so for informal employment, unpaid work, violence against women, entrepreneurship, and use of time (data2X et al., 2014). These data are crucial for revealing the extent and roles of women as users, managers and innovators across water-related productive sectors (Fauconnier et al., 2018) as well as to better understand the subtle forms of gender differences and women's discrimination. A key stumbling block to achieving a more robust gender-integrated national and international water policy regime is the lack of comparable data on gender-related water indicators (Miletto et al., 2019; Seager, 2015).

SDG 17 in its target 17.18 made a call to, by 2020, "increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts". Sex- and age-disaggregated data should be used to monitor progress on gender equality and the empowerment of women and girls across the SDGs as it relates to the water sector. These data should be collected and used under international standards to support the formulation, as well as assess and monitor the gender-responsiveness, of policies and strategies.

²⁶ The study analysed data from 2013-2017 from the national University Statistics Consultation System of Argentina; these data showed that from all students enrolled in careers directly linked to water resources, 35% of the median of students were women, and from all students graduated from those careers, 33% of the median of students were women.

FAO's AQUASTAT database²⁷ includes specific gender-related indicators that support the collection of reliable and comparable data on gender and agricultural water management, giving more visibility to women's roles and potential in sustainable water governance, which are often still underestimated. This information is also used for advocating for equitable water governance in existing policies and projects and for addressing the specific constraints of female farmers in gaining access to and control over water resources.

Taking into consideration the urgent need for practical tools and universal methods and standards for data collection, the UNESCO World Water Assessment Programme has developed a Toolkit on Sex-Disaggregated Water Data. Through the creation of an innovative methodology for the collection and analysis of sex-disaggregated data on a wide range of water-related topics, the Toolkit is designed to help fill the gender data gap through the use of gender-responsive indicators which can be applied in a broad range of contexts.²⁸ This Toolkit has been internationally recognized by the African Ministers' Council on Water (Box 8), the 60th Commission on the Status of Women and the UNESCO Intergovernmental Hydrological Programme (IHP), has been included in the UNFCCC Gender and Climate Change Guidelines and has been adopted within the Global Environment Facility (GEF) International Water Learning, Exchange and Resources Network (IW:LEARN) Project.

Box 8 Gender-responsive water policy and monitoring indicators in Africa

During the Pan African Implementation and Partnership Conference on Water held in Addis Ababa in 2003, the African Ministers' Council on Water (AMCOW) recognized the vital role of women and girls in managing water resources beyond the household and the broader role they could have in decision-making about water, as well as the importance of gender mainstreaming in Africa's water sector. During the First African Water Week in Tunis in 2008, it was agreed to develop the AMCOW Policy and Strategy for Mainstreaming Gender in Africa's Water Sector. Launched in 2011, the policy and strategy aimed to raise awareness of gender concerns regarding water resources and sanitation, and to highlight the need for countries, development banks, donors and development agencies to address gender issues in the African context with a regional perspective (AMCOW, 2011). At that time, there were no gender monitoring tools for Africa, and the view was that the continent could gain much from regional and national monitoring of gender equality progress in the water sector, and from enhanced knowledge-sharing and exchange of good practices in gender-sensitive monitoring. In this context, in 2014, AMCOW officially committed to "accelerate the implementation of the AMCOW policy and strategy to mainstreaming gender in the water sector in Africa" by developing, among other actions, a gender-sensitive monitoring and evaluation framework of the strategy, and by adopting the UNESCO WWAP gender-responsive indicators for water assessment and monitoring by 2016.³ In 2017, AMCOW developed a ten-year strategy for water and sanitation in Africa, identifying gender equality and youth empowerment as cross-cutting priorities (AMCOW, 2017).

³ For details, see <http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/images/MinisterialgenderDeclaration.pdf>.

Funding for gender equality in the water sector

The Organisation for Economic Co-operation and Development (OECD) reports that over 2017–2018, a yearly average of \$48.7 billion of bilateral aid targeted gender equality and women's empowerment, the highest amount recorded yet. Gender equality strategies accounted for 9.5% of this total, that is, \$4.6 billion. Most of this funding was spent in the areas of human rights, the media and education, with smaller shares going to the environment, poverty reduction and economic development (OECD, 2020).

Despite progress in funding, the Equal Measures 2030 SDG Gender Index highlights that public finance and gender-disaggregated data fall short in progressing gender equality (Equal Measures 2030, 2019). The coverage ratio (ratio of funding received to funding requested) for funding for gender equality and the empowerment of women and girls in humanitarian action is 31–33% for gender-based violence, 43% for reproductive health and 50% for child protection, revealing a significant lack (UNFPA/UN Women, 2020).

²⁷ AQUASTAT is FAO's global information system on water and agriculture. Available at <http://www.fao.org/aquastat/en/>.

²⁸ The UNESCO WWAP Water and Gender Toolkit can be accessed here: http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/display-single-news/news/the_2019_water_gender_toolkit_has_been_launched/.

Lack of funding is one of the main reasons for the failure of gender mainstreaming and gender-inclusive policies and practices in agriculture and natural resources management. The monitoring of aid streams has highlighted that funding provided to women's organizations has been decreasing over the past years (OECD, 2016). The Green Climate Fund investigated how much funding was granted in 2014 by foundations, women's funds and other institutional donors to activities supporting women and environment, or similar initiatives led by women, and found that 269 donors allocated to 825 funds a total of \$110.2 million (Dobson and Lawrence, 2014). This represented less than 0.1% of all foundation grants. Nearly two-thirds of this amount was provided by the Bill & Melinda Gates Foundation alone. Moreover, only 11% targeted 'water access and sanitation', and 54% specifically targeted the region of sub-Saharan Africa.

Gender strategies in the water sector are seldom funded adequately. Although specific information on the funding of gender strategies in the water sector is scarce, the low level of funding in the sector can be inferred from the overall level of funding in the development sector (UN Women/UNESCO WWAP, forthcoming). The 2017 AidData report on realizing the 2030 Agenda provides insights into the development priorities of development partners by considering historical data on past official development assistance; these data can provide reliable indications for the future. Over the period 2000–2013, the goals related to reducing inequalities, including gender equality, were among the least funded, with amounts below \$1 billion per year earmarked for them (Sethi et al., 2017). However, programmes not specifically targeted at gender equality frequently incorporate work that may promote it, hence gender-related financing may be underestimated.

Women's access to financial services

Globally, about 1.1 billion women do not have access to financial services such as bank accounts or insurance. Limited access to credits and loans greatly reduces the opportunities for female entrepreneurs – the credit gap for registered small and medium-sized enterprises owned by women is \$300 billion (EIB Group, 2016). In Europe, the gender gap in employment results in an estimated total economic loss of €370 billion, which equates to 2.8% of the European Union's annual gross domestic product. Closing these gaps and promoting gender equality is likely to bring \$12–28 trillion to the world's gross domestic product by 2025 (EIB Group, 2016). And importantly, closing the financial gaps will accelerate most of the other efforts made towards achieving gender equality.

The structural financial constraints that many women face in becoming economic actors on the same terms as men strongly demonstrate that progress on the global commitments to gender equality in the water sector will not accelerate until sufficient enabling resources are allocated. For this to happen, adequate translation of policies and commitments into practice is indispensable.

Over the years, gender-responsive budgeting has been urgently called for in view of the gender-blindness of government policies and budgets. Gender budgeting, or gender-responsive budgeting, takes gender perspectives into consideration in the process of initiating, drafting, implementing and evaluating a budget so as to ensure it does not discriminate against either men or women (Ichii, 2010). In 2016, nearly half of OECD member countries reported that they had introduced or were planning to adopt gender-responsive budgeting (OECD, 2016). While there are difficulties to integrating gender perspectives into national policies and programmes through gender-responsive budgeting, there has been progress. In Latin American countries, significant results have been achieved with participatory budgeting, which aims to incorporate citizen perspectives, promote equality and enhance inclusiveness (Oropeza, 2011; Schroedel, 2019). In sub-Saharan Africa, an International Monetary Fund (IMF) analysis of countries' efforts to introduce gender budgeting found that gender budgeting has been planned or applied: (i) in 2004 by several ministries in Uganda, including the Ministry of Water and Sanitation; (ii) in Ethiopia, by cooperation among government, NGOs and United Nations agencies; (iii) in 2012 by the Ministry of Water Resources in Nigeria, and (iv) in 2010, in Mali, within a 10-year initiative targeting 10 sectors, including water and energy (Stotsky et al., 2016).

4

CONCLUSIONS AND KEY CHALLENGES

The previous chapters in this report have sought to document (i) the dominant international policy frameworks that guide the intersection of gender equality and water access and water rights, and (ii) the available information from around the world on gender equality in a range of relevant water-related topics – human rights, sanitation and health, work, climate, governance, education and training, data and funding. We have seen that, despite many dimensions of progress in the last 25 years since the Beijing Declaration, persistent and emergent challenges remain. The three dominant frameworks discussed were:

1. The Human Right to Water (and Sanitation), enshrined in General Comment No. 15 (2002) and formally declared by the United Nations in 2010. Seeing safe water and sanitation as a human right commits the global community to work towards its progressive realization for all, without discrimination, and with a special focus on vulnerable groups such as children and women, and in particular, rural women, the poor, and indigenous people. The key dimensions of water rights are accessibility, adequacy, safety and affordability; we argued that a shortfall in any of these dimensions disproportionately affected women because of prevailing negative social norms.
2. The Sustainable Development Goals (SDGs), adopted in 2015, and whose targets are now the *de facto* benchmark for development aid and the associated indicators forming the base for the global monitoring of progress towards the achievement of the 17 SDGs. SDG 5 calls for gender equality in all aspects, while SDG 6 calls for universal access to safe water and sanitation, as well as sustainable management of water and wastewater resources. The SDGs are inter-sectoral, meaning that they explicitly recognize that the goals and their attendant rights are interconnected. We argued, however, that the indicators for most of the SDGs do not have a gender component, making the SDGs only partially useful in guiding gender equality with respect to water.
3. Climate change adaptation and mitigation, guided by the UNFCCC, with goals and progress indicators re-set annually in light of year-to-year changes. Here we argued that, while the international community recognized the many ways in which climate change disproportionately and negatively affects women, there remain significant gaps between increasing commitment, progressive discourses and actual policy measures, with environmental policies being often gender-blind. These gaps mean that, while climate change affects water resources and water resources affect women, achieving gender parity remains a challenge as long as these gaps remain.

Against the backdrop of these guiding frameworks, these chapters described existing and emergent challenges to gender equality in the water sector, drawing on a range of examples, in particular from low- and middle-income country contexts, but also taking into account that some of these challenges also affect women in high-income countries. As water seeps and flows into every aspect of life, it is not surprising that these challenges encompass a large range of gendered concerns, i.e., WASH access, health, employment, climate change management, water governance, education and training, and data collection and funding. In this concluding section, we need not repeat the examples of, and barriers to, gender equality in all these water-related dimensions. Rather, we pull out four important themes that underlie many of these challenges, indicating where systemic progress is needed to reduce the barriers to achieving equality in all of these dimensions.

First, we find that numerous examples point to the disproportionate burden on women and girls of inadequate access to safe water and sanitation, accompanied by disproportionate stress, shame and risk due to this inadequacy. However, in almost all circumstances, we find that these disproportionate burdens and responsibilities are **not accompanied by commensurate power and authority** to make water-related decisions, nationally or even within communities. In too many cases we see that high workloads, high stress and high social expectations posed on women (i.e., women's role in domestic work, family care and other unpaid work traditionally assumed as women's responsibility) are accompanied by low power, low authority, and low financial capacity.

Second, we point to numerous instances of a **wedge between the stated policy discourses** (which favour gender equality and decision-making) **and actual practices** (which allow unequal access and unbalanced power to continue). This wedge is evidence that the community of nations (and water sector leaders) know that women's leadership and authority in the water sector is needed and beneficial for all, but that conventional practices and conventional power structures that disadvantage women in the water sector have not been overcome, and (most probably) inadequate efforts have been made to reverse "business-as-usual".

Third, we find that in almost all the above dimensions, unequal practices and unequal power relations are bolstered by gender stereotyping, **gender norms and taboos, persistent gender discrimination and the threat of violence**. Inevitably, the poorer the women, the more these norms and threats go against the enjoyment of their rights. These observations apply equally to access, employment, education, property rights and health outcomes with respect to water. They also apply to the differential and usually more severe impact of climate change on women. The pervasiveness of these norms and threats indicate that piecemeal reforms will be inherently limited and that lasting reforms must address both the specific challenges of the water sector as well as the underlying challenges of gender relations more generally.

Finally, we are confronting a problem of **inadequate sex-disaggregated data in the water sector** (and indeed in many other sectors). It is difficult and costly to collect data by gender as opposed to by household; however, it is essential because without data we cannot monitor progress, and without data we have no way to hold institutions accountable. Moreover, we are in a world where development finance and even national policies are increasingly "evidence-driven"; without credible data, it is not possible to make a case for greater opportunities for women and water, or more funding in the high-priority areas.

These observations are not new, because the problems are not new. This document has sought to provide a comprehensive account of the current water challenges from the perspective of their impact on women. Since the Beijing Declaration, as discussed in these chapters, much progress has been made in water access, employment access, and education, in particular. However, many old problems have persisted. Moreover, new challenges have arisen, especially with respect to climate change-induced displacement and strife, which has threatened both the sustainability of water resources as well as the safety and health of women and girls seeking access in increasingly challenging circumstances. New technologies and unequal access are also emerging issues that need to be addressed with regard to gender equality. This report finds that systematic and sustained efforts to break down the structures that uphold gender inequalities – such as limited decision-making involvement and participation, gaps between discourse and policy, conventional gender norms and everyday discrimination, and low data availability and funding – are essential if we are to achieve meaningful and lasting gender equality in the water domain and long-term achievements involving the 2030 Agenda as a whole.

REFERENCES

- Ainsworth, R. and WHO (World Health Organization). 2004. *Safe piped water: managing microbial water quality in piped distribution systems*. London, IWA Publishing on behalf of the World Health Organization (WHO). <https://apps.who.int/iris/handle/10665/42785>.
- AMCOW (African Ministerial Conference on Water). 2011. *AMCOW Policy and Strategy for Mainstreaming Gender in the Water Sector in Africa*. <https://knowledgehub.amcow-online.org/resource/152>.
- _____. 2017. *AMCOW Policy and Strategy for Youth in the Water and Sanitation Sector in Africa*. <https://knowledgehub.amcow-online.org/resource/153>.
- Amin, H., Ali, T., Ahmad, M. and Zafar, M. 2009. Participation level of rural women in agricultural activities. *Pakistan Journal of Agricultural Sciences*, Vol. 46, No. 4. <https://pakjas.com.pk/papers/83.pdf>.
- Amnesty International. n.d. Indigenous peoples. <https://www.amnesty.org/en/what-we-do/indigenous-peoples/>.
- AquaFed/WfWP (Women for Water Partnership). 2016. Combined AquaFed & Women for Water Partnership contribution on questions for the report on gender equality. http://www.aquafed.org/Public/Files/___Uploads/files/2016-01-31_Vf_AquaFed-WfWP-HRWS-Gender_Equity.pdf.
- Avello, P. 2018. Sex for Water is Sextortion, and it is a Crime. SIWI blog. <https://www.siw.org/latest/sex-for-water-is-sextortion-and-it-is-a-crime>.
- Baker, K. K., Padhi, B., Torondel, B., Das, P., Dutta, A., Sahoo, K.C., Das, B., Dreibelbis, R., Caruso, B., Freeman, M.C., Sager, L. and Panigrahi, P. 2017. From menarche to menopause: A population-based assessment of water, sanitation, and hygiene risk factors for reproductive tract infection symptoms over life stages in rural girls and women in India. *PLOS ONE*, Vol. 12, No. 12, pp. 1–20. doi.org/10.1371/journal.pone.0188234.
- Baker, K. K., Story, W. T., Walser-Kuntz, E. and Zimmerman, M. B. 2018. Impact of social capital, harassment of women and girls, and water and sanitation access on premature birth and low infant birth weight in India. *PLOS ONE*, Vol. 13, No. 10, pp. 1–18. doi.org/10.1371/journal.pone.0205345.
- Borja-Vega, C. and Grabinsky, J. 2019. *Gender and water collection responsibilities – A snapshot of Latin America*. World Bank. <https://blogs.worldbank.org/water/gender-and-water-collection-responsibilities-snapshot-latin-america>.
- Boyd, M. and Grieco, E.M. 1998. *Women and migration: incorporating gender into international migration theory*. Working paper. Florida State University College of Social Sciences. http://homes.chass.utoronto.ca/~boydmon/research_papers/gender_inequality/grieco_and_boyd.pdf.
- Caretta, M.A. and Börjeson, L. 2015. Local gender contract and adaptive capacity in small holder irrigation farming: a case study from the Kenyan drylands. *Gender, Place and Culture. A Journal of Feminist Geography*. Vol. 22, No. 5. doi.org/10.1080/0966369X.2014.885888.
- Caruso, B. A., Clasen, T. F., Cooper, H. L. F., Dasmohapatra, M., Hadley, C., Haardörfer, R., Rout, M. and Yount, K. M. 2017. Understanding and defining sanitation insecurity: Women's gendered experiences of urination, defecation and menstruation in rural Odisha, India. *BMJ Global Health*, Vol. 2, No. 4. doi.org/10.1136/bmjgh-2017-000414.
- Chavez-MacGregor, M., van Gils, C. H., Monnikhof, E., van Noord, P. A. H., Peeters, P. H. M. and van der Schouw, Y.T. 2008. Lifetime cumulative number of menstrual cycles and serum sex hormone levels in postmenopausal women. *Breast Cancer Research and Treatment*, Vol. 108, No. 1, pp. 101–112. doi.org/10.1007/s10549-007-9574-z.
- Choi, A. 2020. The Borgen Project. Addressing period poverty in Namibia. September 23. <https://borgenproject.org/period-poverty-in-namibia>.
- Damania, R., Desbureaux, S., Rodella, A., Russ, J. and Zaveri, E. 2019. *Quality Unknown. The invisible water crisis*. Washington, DC, World Bank. License: Creative Commons Attribution CC BY 3.0 IGO. <https://openknowledge.worldbank.org/bitstream/handle/10986/32245/9781464814594.pdf?sequence=8&isAllowed=y>.
- Das, M. B. 2017. *The Rising Tide. A New Look at Water and Gender*. Washington, DC, World Bank. <https://openknowledge.worldbank.org/bitstream/handle/10986/27949/W17068.pdf?sequence=4&isAllowed=y>.
- data2x, Buvinic, M., Furst Nichols, R. and Koolwal, G. 2014. *Mapping Gender Data Gaps*. https://data2x.org/wp-content/uploads/2019/05/Data2X_MappingGenderDataGaps_FullReport.pdf.
- data2x and Grantham, K. 2020. *Mapping Gender Data Gaps: An SDG Era Update*. Washington DC, data2x. <https://data2x.org/resource-center/mappinggenderdatagaps>.

- Demie, G., Bekele, M. and Seyoum, B. 2016. Water accessibility impact on girl and women's participation in education and other development activities: the case of Wuchale and Jidda Woreda, Ethiopia. *Environmental Systems Research*, Vol. 5, No. 1. doi.org/10.1186/s40068-016-0061-6.
- Djoudi, H. and Brockhaus, M. 2011. Is Adaptation to Climate Change Gender Neutral? Lessons from communities dependent on livestock and forests in Northern Mali. *International Forestry Review*, Vol. 13, No. 2, pp. 123–135. doi.org/10.1505/146554811797406606.
- Dobson, C. and Lawrence, S. 2014. *Our Voices, Our Environment: The State of Funding for Women's Environmental Action*. Global Greengrants Fund/Prospera. https://www.greengrants.org/wp-content/uploads/2018/03/GGF_Gender-Mapping-Report_HighRes-Singles.pdf.
- ECOSOC (United Nations Economic and Social Council). 2019. Review and appraisal of the implementation of the Beijing Declaration and Platform for Action and the outcomes of the twenty-third special session of the General Assembly: Report of the Secretary General. New York, United Nations. <https://digitallibrary.un.org/record/3850087>.
- EIB (European Investment Bank) Group. 2016. Protect, Impact, Invest: The EIB Group Strategy on Gender Equality and Women's Economic Empowerment. https://www.eib.org/attachments/strategies/eib_group_strategy_on_gender_equality_en.pdf.
- Enarson, E. 2000. *Gender and natural disasters*. Working Paper 1. Geneva, International Labour Organization (ILO). https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_crisis/documents/publication/wcms_116391.pdf.
- Equal Measures 2030. 2019. Harnessing the power of data for gender equality: introducing the 2019 EM2030 SDG Gender Index. Woking, UK, Equal Measures 2030. <https://www.equalmeasures2030.org/products/global-report-2019/>.
- FAO (Food and Agriculture Organization of the United Nations). 2010. Gender and Land Rights Database. <http://www.fao.org/gender-landrights-database/en/>.
- _____. 2011a. *The state of the world's land and water resources for food and agriculture (SOLAW) – Managing systems at risk*. Rome/London, FAO/Earthscan. <http://www.fao.org/nr/solaw/the-book/en/>.
- _____. 2011b. *The state of food and agriculture 2010-2011. Women in agriculture. Closing the gender gap for development*. Rome, FAO. <http://www.fao.org/3/a-i2050e.pdf>.
- _____. 2016. *How can women control water? Increase agriculture productivity and strengthen resource management*. Rome, FAO. <http://www.fao.org/3/a-i6405e.pdf>.
- _____. 2017a. *Gender and land statistics: towards more accurate land statistics: the GLRD*. Rome, FAO. <http://www.fao.org/3/a-i5488e.pdf>.
- _____. 2017b. *Climate smart agriculture sourcebook: the role of gender in climate-smart agriculture*. <http://www.fao.org/climate-smart-agriculture-sourcebook/enabling-frameworks/module-c6-gender/c6-overview/en/?type=111>.
- FAO/IFAD/IOM/WFP. 2018. *The linkages between migration, agriculture, food security and rural development*. Rome. www.fao.org/3/CA0922EN/CA0922EN.pdf. Licence: CC BY-NC-SA 3.0 IGO.
- FAO/IFAD/UNICEF/WFP/WHO. 2017. *The State of Food Security and Nutrition in the World 2017. Building resilience for peace and food security*. Rome, FAO. <http://www.fao.org/3/I7695e/I7695e.pdf>.
- _____. 2020. *The state of food security and nutrition in the world 2020. Transforming food systems for affordable healthy diets*. Rome. doi.org/10.4060/ca9692en.
- FAO/World Bank. 2017. *How to integrate gender issues in climate-smart agriculture projects*. Training Module. Rome, FAO/World Bank. <http://www.fao.org/3/i6097e/i6097e.pdf>.
- Fauconnier, I., Jenniskens, A., Perry, P., Fanaian, S., Sen, S., Sinha, V. and Witmer, L. 2018. *Women as change-makers in the governance of shared waters*. Gland, Switzerland, International Union for Conservation of Nature (IUCN). https://www.womenforwater.org/uploads/7/7/5/1/77516286/iucn_women_changemakers_final_web.pdf.
- Garland, S. 2012. Global water for sustainability: delivering clean water solutions around the world. *FIU Magazine*. Florida International University. <https://news.fiu.edu/2012/global-water-for-sustainability-delivering-clean-water-solutions-around-the-world>.
- Geere, J.A., Bartram, J., Bates, L., Danquah, L., Evans, B., Fisher, M.B., Groce, N., Majuru, B., Mokoena, M.M., Mukhola, M.S., Nguyen-Viet, H., Duc, P.P., Williams, A.R., Schmidt, W.P. and Hunter, P.R. 2018. Carrying water may be a major contributor to disability from musculoskeletal disorders in low income countries: a cross-sectional survey in South Africa, Ghana and Vietnam. *Journal of Global Health*, Vol. 8, No. 1, 010406. doi.org/10.7189/jogh.08.010406.
- GenderCC. n.d. Gender@UNFCCC. <https://www.gendercc.net/genderunfccc.html> [accessed on January 29 2021].
- George, A. 2008. Nurses, community health workers, and home carers: gendered human resources compensating for skewed health systems. *Global Public Health*, Vol. 3, No. 1, pp. 75–89. doi.org/10.1080/17441690801892240.
- GGCA (Global Gender and Climate Alliance). 2016. Gender and climate change: a closer look at existing evidence. <https://wedo.org/wp-content/uploads/2016/11/GGCA-RP-FINAL.pdf>.

- GWP (Global Water Partnership). 2017. *Gender equality and inclusion in water resources management*. Stockholm, GWP. <https://www.gwp.org/globalassets/global/about-gwp/publications/gender/gender-action-piece.pdf>.
- _____. n.d. About IWRM. <https://www.gwp.org/en/GWP-Caribbean/WE-ACT/About-IWRM/>.
- Hulland, K.R.S., Chase, R.P., Caruso, B.A., Swain, R., Biswal, B., Sahoo, K.C., Panigrahi, P. and Dreibelbis, R. 2015. Sanitation, stress, and life stage: a systematic data collection study among women in Odisha, India. *PLOS ONE*, Vol. 10, No. 11. doi.org/10.1371/journal.pone.0141883.
- Ichii, R. 2010. Gender Responsive Budgeting in Education - Advocacy Brief. Bangkok, UNESCO Bangkok. <https://unesdoc.unesco.org/ark:/48223/pf0000189456>.
- IDMC (Internal Displacement Monitoring Centre). 2016. *Global report on internal displacement*. Geneva, IDMC. <https://www.internal-displacement.org/globalreport2016/pdf/2016-global-report-internal-displacement-IDMC.pdf>.
- IFAD (International Fund for Agricultural Development). 2007. *Gender and water. Securing water for improved rural livelihoods: the multiple-uses system approach*. Rome, IFAD. <https://www.ifad.org/en/web/knowledge/publication/asset/39406135>.
- _____. 2016. *Reducing rural women's domestic workload through labour-saving technologies and practices*. Rome, IFAD. <https://www.ifad.org/en/web/knowledge/publication/asset/40196920>.
- IFRC (International Federation of Red Cross and Red Crescent Societies). 2007. *World disaster report. Focus on discrimination*. Geneva, IFRC. <https://www.ifrc.org/PageFiles/99876/WDR2007-English.pdf>.
- Imburgia, L., López, P. and Rafaelli, S. 2020. *Methodological approach for applying the UNESCO WWAP Water and Gender Indicators: an example from Argentina*. Paris, UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000374925>.
- IOM (International Organization for Migration). 2008. *Migration and climate change*. IOM Migration Research Series No. 31. Geneva, IOM. <https://publications.iom.int/fr/books/mrs-ndeg31-migration-and-climate-change>.
- IPCC (Intergovernmental Panel on Climate Change). 2014. *AR5 Synthesis Report: Climate Change 2014*. Retrieved March 26, 2020 <https://www.ipcc.ch/report/ar5/syr/>.
- ITU (International Telecommunication Union). 2019. Measuring digital development. Facts and figures 2019. Geneva, ITU. <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2019.pdf>.
- IUCN/EGU/UN Women. 2015. Women's participation in global environmental decision making. https://portals.iucn.org/union/sites/union/files/doc/egi_factsheet_desicion_making_web_sept2015.pdf.
- IWA (International Water Association). 2016. *The untapped resource: gender and diversity in the water workforce*. London, IWA. <https://iwa-network.org/publications/untapped-resource-gender-diversity-water-workforce/>.
- Jain, A. and Anand, R. 2020. Women bear the burden of India's water crisis. Times of India, 14 February 2020. <https://timesofindia.indiatimes.com/blogs/developing-contemporary-india/women-bear-the-burden-of-indias-water-crisis/?source=app&frmapp=yes>.
- Kamei, A. 2020. *Who walks for water? Water consumption and labor supply response to rainfall scarcity in Uganda*. University of Illinois at Urbana-Champaign. http://publish.illinois.edu/kameiakito/files/2020/11/Rainfall-and-Water_JMP_Kamei.pdf.
- Kashyap, R., Fatehkia, M., Tamime, R. and Weber, I. 2020. Monitoring global digital gender inequality using the online populations of Facebook and Google. *Demographic Research*, Vol. 43, No. 27, pp. 779–816. doi.org/10.4054/DemRes.2020.43.27.
- Kaur, R., Kaur, K. and Kaur, R. 2018. Menstrual hygiene, management, and waste disposal: practices and challenges faced by girls/women of developing countries. *Journal of Environmental and Public Health*, 2018 1730964. doi.org/10.1155/2018/1730964.
- Khosla, P. Van Wijk, C., Verhagen, J. and Viju, J. 2004. Gender and Water. Thematic Overview Paper. Delft, The Netherlands, International Water and Sanitation Centre (IRC). https://www.ircwash.org/sites/default/files/2004_10_top_gender_and_water.pdf.
- Lowe, C., Ludi, E., Le Sève, M. D. and Tsui, J. 2019. *Linking social protection and water security to empower women and girls*. Working paper 567. London, Overseas Development Institute (ODI). https://cdn.odi.org/media/documents/linking_social_protection_to_water_security_final_digital.pdf.
- Miletto, M., Caretta, M.A., Burchi, F.M. and Zanlucchi, G. 2017. *Migration and its interdependencies with water scarcity, gender and youth employment*. Paris, UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000258968>.
- Miletto, M., Pangare, V. and Thuy, L. 2019. *Tool 1 – Gender-responsive indicators for water assessment, monitoring and reporting*. UNESCO WWAP Toolkit on Sex-disaggregated Water Data. Paris, UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000367971>.
- Mlambo-Ngcuka, P. and Albrechtsen, A. 2020. Opinion: we cannot allow COVID-19 to reinforce the digital gender divide. Devex. Global View. <https://www.devex.com/news/opinion-we-cannot-allow-covid-19-to-reinforce-the-digital-gender-divide-97118>.
- Njie, N-I. and Ndiaye, T. 2013. Women and agricultural water resources management: a pathway towards obtaining gender equality. *UN Chronicle*, Vol. 50, No. 1, pp. 10–15. doi.org/10.18356/1f0cf934-en.

- OCHA (Office for the Coordination of Humanitarian Affairs). 2019. *Humanitarian Needs Overview 2019: Haiti*. https://reliefweb.int/sites/reliefweb.int/files/resources/HNO-Haiti_2019-Summary-EN_0.pdf.
- OECD (Organisation for Economic Co-operation and Development). 2016. Donor support to southern women's rights organisations. Paris, OECD. <https://www.oecd.org/dac/gender-development/OECD-report-on-womens-rights-organisations.pdf>.
- _____. 2018. *Implementing the OECD Principles on Water Governance*. Paris: OECD Publishing. doi.org/10.1787/9789264292659-en.
- _____. 2020. Aid focussed on gender equality and women's empowerment: a snapshot of current funding and trends over time in support of the implementation of the Beijing Declaration and Platform for Action. <http://www.oecd.org/development/gender-development/Aid-Focussed-on-Gender-Equality-and-Women-s-Empowerment-2020.pdf>.
- OHCHR (United Nations Human Rights Council). 2015. A/70/203 Report of the Special Rapporteur on the human right to safe drinking water and sanitation. <https://digitallibrary.un.org/record/800960>.
- _____. 2016. Report of the Special Rapporteur on the human right to safe drinking water and sanitation. <https://undocs.org/A/HRC/33/49>.
- Olusanya, B. O. and Ofowofe, G. E. 2010. Predictors of preterm births and low birthweight in an inner-city hospital in sub-Saharan Africa. *Maternal and Child Health Journal*, Vol. 14, pp. 978–986. doi.org/10.1007/s10995-009-0528-4.
- Oropeza, J. 2011. *Participatory budgeting: citizen participation for better public policies*. Policy brief. Lima, Evidence and Lessons from Latin America (ELLA). https://assets.publishing.service.gov.uk/media/57a08ab7e5274a27b2000711/1111111_GOV_BudPubPol_BRIEF4_0.pdf.
- Oxfam. n.d. Water and sanitation. <https://www.oxfam.org/en/what-we-do/issues/water-and-sanitation>.
- Padhi, B.K., Baker, K.K., Dutta, A., Cumming, O., Freeman, M.C., Satpathy, R., Das, B.S., and Panigrahi, P. 2015. Risk of adverse pregnancy outcomes among women practicing poor sanitation in rural India: A population-based prospective cohort study. *PLOS Medicine*, Vol. 12, No. 7, pp. 1–18. doi.org/10.1371/journal.pmed.1001851.
- Parthasarathy, R., Rao, V. and Palaniswamy, N. 2017. Deliberative inequality: A text-as-data study of Tamil Nadu's village assemblies. World Bank Policy Research Working Paper No. 8119 (June 2017).
- Phillips-Howard, P. A., Otieno, G., Burmen, B., Otieno, F., Odongo, F., Odour, C., Nyothach, E., Amek, N., Zielinski-Gutierrez, E., Odhiambo, F., Zeh, C., Kwaro, D., Mills, L. A. and Laserson, K. F. 2015. Menstrual needs and associations with sexual and reproductive risks in rural Kenyan females: A cross-sectional behavioral survey linked with HIV prevalence. *Journal of Women's Health*, Vol. 24, No. 10, pp. 801–811. doi.org/10.1089/jwh.2014.5031.
- PRB (Population Reference Bureau). 2011. World Population Data Sheet. https://assets.prb.org/pdf11/2011population-data-sheet_eng.pdf.
- Ranganathan, M., Heise, L., MacPhail, C., Stöckl, H., Silverwood, R.J., Kahn, K., Selin, A., Gómez-Olivé, F.X., Watts, C. and Pettifor, A. 2018. "It's because I like things... it's a status and he buys me airtime": Exploring the role of transactional sex in young women's consumption patterns in rural South Africa (secondary findings from HPTN 068). *Reproductive Health*, Vol. 15, No. 1, pp. 1–21. doi.org/10.1186/s12978-018-0539-y.
- Ritchie, H. and Roser, M. 2019. "Sanitation". Published online at OurWorldInData.org. <https://ourworldindata.org/sanitation>.
- SaciWATERS/SOPPECOM. 2011. Situational analysis of women water professionals in South Asia. <https://www.soppecom.org/pdf/SituationalAnalysisofWomenFULL7.pdf>.
- Schroedel, J. 2019. The development of participatory budgeting in South America. CitizenLab. <https://www.citizenlab.co/blog/civic-engagement/participatory-budgeting/the-development-of-participatory-budgeting-in-south-america>.
- Seager, J. 2015. *Sex-disaggregated indicators for water assessment, monitoring and reporting*. UNESCO WWAP. Paris, UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000234082>.
- Sethi, T., Custer, S., Turner, J., Sims, J., DiLorenzo, M. and Latourell, R. 2017. *Realizing Agenda 2030: will donor dollars and country priorities align with global goals?* Williamsburg, VA, AidData at William & Mary. <https://www.aiddata.org/publications/realizing-agenda-2030-will-donor-dollars-and-country-priorities-align-with-global-goals>.
- Stotsky, J. G., Kolovich, L. and Kebhaj, S., 2016. Sub-Saharan Africa: a survey of gender budgeting efforts. *IMF Working Paper*, Vol. 16, No. 152, p. 1. <https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Sub-Saharan-Africa-A-Survey-of-Gender-Budgeting-Efforts-44145>.
- Theis, S. 2019. Making small-scale irrigation work for women. International Food Policy Research Institute (IFPRI) Blog. <https://www.ifpri.org/blog/making-small-scale-irrigation-work-women>.
- Thompson, K., O'Dell, K., Syed, S., Kemp, H. and Vazquez, E. 2017. Thirsty for change: the untapped potential of women in urban water management. *Deloitte Review*, No. 20, pp. 154–167. https://www2.deloitte.com/content/dam/insights/us/articles/3267_Thirsty-for-change/DR20_Thirsty%20for%20change2_reprint.pdf.

- Thuy, L., Mileto, M. and Pangare, V. 2019. *Tool 2 – Methodology for the collection of sex-disaggregated water data*. UNESCO WWAP Toolkit on Sex-disaggregated Water Data. UNESCO WWAP. Paris, UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000367972>.
- Trivedi, A. 2018. Women are the secret weapon for better water management. <https://www.wri.org/blog/2018/10/women-are-secret-weapon-better-water-management>.
- Ullah, A.A. 2017. Male Migration and ‘Left-behind’ Women: Bane or Boon? *Environment and Urbanization ASIA*, Vol. 8, No. 1, pp. 59–73. doi.org/10.1177/0975425316683862.
- UN DESA (United Nations Department of Economic and Social Affairs). 2019. International migration 2019. Wall Chart (ST/ESA/SER/A/431). New York, United Nations. https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/documents/2020/Feb/un_2019_internationalmigration_wallchart.pdf.
- _____. 2021. State of the world’s indigenous peoples (5th Volume). Rights to lands, territories and resources. New York, United Nations. <https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2021/03/State-of-Worlds-Indigenous-Peoples-Vol-V-Final.pdf>.
- UNDP (United Nations Development Programme). 2018. *Gender Equality Strategy 2018-2021*. New York, UNDP. <https://www.undp.org/content/undp/en/home/librarypage/womens-empowerment/undp-gender-equality-strategy-2018-2021.html>.
- UNDP-SIWI Water Governance Facility. 2017. *Women and corruption in the water sector: Theories and experiences from Johannesburg and Bogotá*. WGF Report No. 8. Stockholm, SIWI. https://www.womenforwater.org/uploads/7/7/5/1/77516286/wgf-report-no-8_final-web-edited.pdf.
- UNDRR (The United Nations Office for Reduction Risk Reduction). 2015. *Sendai Framework for Disaster Risk Reduction 2015-2030*. <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>.
- UNEP/UN Women/PBSO/UNDP. 2013. Women and natural resources: unlocking the peacebuilding potential. Nairobi/New York, UNEP/UNWomen/PBSO/UNDP. <https://www.unep.org/resources/report/women-and-natural-resources-unlocking-peace-building-potential>.
- UNESCO (United Nations Educational, Scientific and Cultural Organization). 2016. *Governance of Groundwater Resources in Transboundary Aquifers (GGRETA)*. <https://unesdoc.unesco.org/ark:/48223/pf0000245266?posInSet=3&queryId=339baba9-a3c8-4059-af1a-19b3522f41b7>.
- UNESCO/IBE (International Bureau of Education). n.d. Concept of Governance. <http://www.ibe.unesco.org/en/geqaf/technical-notes/concept-governance#:~:text=Governance%20has%20been%20defined%20to,%2C%20and%20broad%2Dbased%20participation>.
- UNESCO/UN-Water. 2016. *United Nations World Water Development Report 2016: Water and Jobs*. Paris, UNESCO. <http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/wwdr/2016-water-and-jobs/>.
- _____. 2020. *United Nations World Water Development Report 2020: Water and Climate Change*. Paris, UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000372985.locale=en>.
- UNFCCC (United Nations Framework Convention on Climate Change). 2017. Establishment of a gender action plan. Document FCCC/CP/2017/11/Add.1, decision 3/CP.23. <https://unfccc.int/documents/65126>.
- _____. 2019a. Enhanced Lima work programme on gender and its gender action plan. Document FCCC/CP/2019/13/Add.1, decision 3/CP.25. <https://unfccc.int/documents/210471>.
- _____. 2019b. Differentiated impacts of climate change on women and men; the integration of gender considerations in climate policies, plans and actions; and progress in enhancing gender balance in national climate delegations. https://unfccc.int/sites/default/files/resource/sbi2019_inf8.pdf.
- UNFPA/UN Women. 2020. *Funding for gender equality and the empowerment of women and girls in humanitarian programming*. New York, UNFPA/UN Women. https://www.unfpa.org/sites/default/files/pub-pdf/GEEWG_UN_WomenUNFPA.pdf.
- UNICEF/WHO (United Nations Children’s Fund/World Health Organization). 2018. Drinking water, sanitation and hygiene in schools: global baseline report 2018. New York, UNICEF/WHO. <https://data.unicef.org/resources/wash-in-schools/>.
- _____. 2019. *Progress on household drinking water, sanitation and hygiene 2000–2017: special focus on inequalities*. New York, UNICEF/WHO. https://www.who.int/water_sanitation_health/publications/jmp-2019-full-report.pdf?ua=1.
- United Nations. 2002a. Johannesburg Declaration on Sustainable Development. 2002. https://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POI_PD.htm.
- _____. 2002b. Johannesburg Plan of Implementation of the World Summit on Sustainable Development. 2002. https://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf.
- _____. 2015. *The Millennium Development Goals Report*. New York, United Nations. [https://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20\(July%201\).pdf](https://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf).

- _____. 2016. Convention on the elimination of all forms of discrimination against women – CEDAW. General recommendation No. 34 (2016) on the rights of rural women. CEDAW/C/GC/34, 03601(March), 337–346. <https://digitallibrary.un.org/record/835897#record-files-collapse-header>.
- _____. 2018. Global Compact for Safe, Orderly and Regular Migration. Resolution adopted by the General Assembly A/RES/73/195. https://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/73/195.
- _____. 2021. *United Nations World Water Development Report 2021: Valuing Water*. Paris, UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000375724>.
- _____. n.d. The Sustainable Development Goals. <https://sdgs.un.org/goals> [accessed on February 1, 2021].
- UN-Water. 2020a. *The Sustainable Development Goal 6 Global Acceleration Framework*. <https://www.unwater.org/publications/the-sdg-6-global-acceleration-framework/>.
- _____. 2020b. *Summary Progress Update 2021 – SDG 6 – water and sanitation for all*. Version: 1 March 2021. Geneva, UN-Water. <https://www.unwater.org/publications/summary-progress-update-2021-sdg-6-water-and-sanitation-for-all/>.
- UNW-DPAC (UN-Water Decade Programme on Advocacy and Communication). n.d. The Human Right to Water and Sanitation Milestones. https://www.un.org/waterforlifedecade/pdf/human_right_to_water_and_sanitation_milestones.pdf.
- UNW-DPC (UN-Water Decade Programme on Capacity Development)/UNESCO. 2015. Proceedings on water education and capacity building: key for water security and sustainable development, 7th World Water Forum. Bonn, Germany, UNW-DPC. <https://unesdoc.unesco.org/ark:/48223/pf0000233579>.
- UN Women. 2014. *The world survey on the role of women in development 2014: gender equality and sustainable development*. New York, UN Women. <https://www.unwomen.org/en/digital-library/publications/2014/10/world-survey-2014>.
- _____. 2015. Summary report – The Beijing Declaration and Platform for Action turns 20. New York, UN Women. <https://www.unwomen.org/en/digital-library/publications/2015/02/beijing-synthesis-report>.
- _____. 2016. Final evaluation – reducing vulnerability of women affected by climate change through livelihood options. New York, UN Women. <https://asiapacific.unwomen.org/-/media/field%20office%20eseasia/docs/publications/2016/06/bd-final-rwacc-01.pdf?la=en&vs=5403>.
- _____. n.d. Facts and Figures: economic empowerment. Benefits of economic empowerment. <https://www.unwomen.org/en/what-we-do/economic-empowerment/facts-and-figures>.
- UN Women/UN DESA. 2019. Progress on the sustainable development goals: the gender snapshot 2019. 1–23. <https://www.unwomen.org/en/digital-library/publications/2019/09/progress-on-the-sustainable-development-goals-the-gender-snapshot-2019>.
- UN Women/UNESCO WWAP. Forthcoming. Designing gender-responsive water policies that support climate resilience and sustainable development. New York and Perugia.
- Vora, S. 2016. No more taboos. Breaking taboos around menstruation and sanitation. Empowering women. <https://menstrualhygieneday.org/wp-content/uploads/2017/01/Homeless-Menstruation-Report.pdf>.
- WaterAid. 2019a. Beneath the surface: the state of the world's water 2019. https://washmatters.wateraid.org/sites/g/files/jkxooof256/files/beneath-the-surface-the-state-of-the-worlds-water-2019_0.pdf.
- _____. 2019b. Water, sanitation and hygiene in health-care facilities: driving transformational change for women and girls. https://www.wateraid.org/ca/sites/g/files/jkxooof281/files/2019-07/WASH%20in%20HCFs%20Briefing_Note.pdf.
- WHO (World Health Organization). 2014. *Gender, climate change and health*. Geneva, WHO. <https://www.who.int/globalchange/GenderClimateChangeHealthfinal.pdf?ua=1>.
- _____. 2017. *Guidelines for drinking-water quality. Fourth edition incorporating the first addendum*. Geneva, WHO. <https://apps.who.int/iris/bitstream/handle/10665/254637/9789241549950-eng.pdf?sequence=1>.
- WHO/UNICEF. 2017. *2017 Annual Report WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP)*. <https://washdata.org/how-we-work/about-jmp>.
- _____. 2019. *WASH in health-care facilities. Global Baseline Report 2019*. Geneva, WHO/UNICEF. <https://apps.who.int/iris/bitstream/handle/10665/311620/9789241515504-eng.pdf>.
- _____. n.d. JMP: Monitoring: Drinking water. <https://washdata.org/monitoring/drinking-water>.
- Winter, S., Dreibelbis, R. and Barchi, F. 2019. Women's sanitation practices in informal settlements: A multi-level analysis of factors influencing utilisation in Nairobi, Kenya. *Global Public Health*, Vol. 14, No. 5, pp. 663–674. doi.org/10.1080/17441692.2018.1534256.
- World Bank Group. 2016. *High and dry: climate change, water, and the economy*. Washington, DC. World Bank. <https://www.worldbank.org/en/topic/water/publication/high-and-dry-climate-change-water-and-the-economy>.

- _____. 2017a. *Bringing clean, affordable water to poor communities through decentralized water treatment kiosks*. Washington, DC, World Bank. https://www.innovationpolicyplatform.org/www.innovationpolicyplatform.org/system/files/01%20WASH%20BMI_Water%20ATM_June1/index.pdf.
- _____. 2017b. *Including persons with disabilities in water sector operations. A guidance note*. Washington, DC, World Bank. <https://openknowledge.worldbank.org/bitstream/handle/10986/27542/117306-WP-P161461-PUBLIC-Disabilities.pdf?sequence=5&isAllowed=y>.
- _____. 2018. *Women, business and the law, 2018. Key findings*. Washington, DC, World Bank. <http://pubdocs.worldbank.org/en/102741522965756861/WBL-Key-Findings-Web-FINAL.pdf>.
- _____. 2019. *Women in water utilities: breaking barriers*. Washington, DC, World Bank. <https://elibrary.worldbank.org/doi/abs/10.1596/32319>.
- _____. 2020. *World Development Report 2020: Trading for development in the age of global value chains*. Washington, DC, World Bank. <https://www.worldbank.org/en/publication/wdr2020>.
- WSUP (Water & Sanitation for the Urban Poor). 2020. *Attitudes of decision makers towards urban sanitation: does gender make a difference?* https://www.wsup.com/content/uploads/2020/05/RBrief_Attitudes-of-decision-makers-urban-sanitation-gender-Kenya.pdf.
- Wutich, A. 2012. Gender, water scarcity, and the management of sustainability tradeoffs in Cochabamba, Bolivia. M. Cruz-Torres and P. McElwee (ed.), *Gender and Sustainability: lessons from Asia and Latin America*. Tucson, The University of Arizona Press.
- Zaheer, R., Zeb, A. and Khattak, S.W. 2014. Women participation in Agriculture in Pakistan (An overview of the constraint and problems faced by rural women). *IOSR Journal of Business and Management*, Vol. 16, No. 2, pp. 1–4. doi.org/10.9790/487X-16220104.

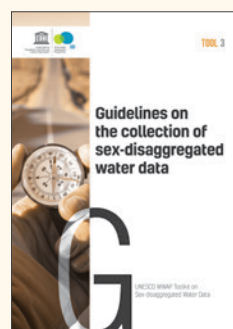
2019 UNESCO WWAP TOOLKIT ON SEX-DISAGGREGATED WATER DATA



Tool 1
Gender-responsive indicators for water assessment, monitoring and reporting



Tool 2
Methodology for the collection of sex-disaggregated water data



Tool 3
Guidelines on the collection of sex-disaggregated water data



Tool 4
Questionnaire for the collection of sex-disaggregated water data

List of WWAP priority topics for indicators and related SDGs

PRIORITY TOPICS	RELATED SDGs
Gender-responsive water governance	1 NO POVERTY, 5 GENDER EQUALITY, 6 CLEAN WATER AND SANITATION, 10 REDUCED INEQUALITIES, 15 LIFE ON LAND, 16 PEACE, JUSTICE AND STRONG INSTITUTIONS, 17 PARTNERSHIPS FOR THE GOALS
Safe drinking water, sanitation and hygiene (WASH)	1 NO POVERTY, 3 GOOD HEALTH AND WELL-BEING, 5 GENDER EQUALITY, 6 CLEAN WATER AND SANITATION, 10 REDUCED INEQUALITIES, 17 PARTNERSHIPS FOR THE GOALS
Gender-specific knowledge resources	1 NO POVERTY, 5 GENDER EQUALITY, 6 CLEAN WATER AND SANITATION, 10 REDUCED INEQUALITIES, 17 PARTNERSHIPS FOR THE GOALS
Transboundary water management	1 NO POVERTY, 5 GENDER EQUALITY, 6 CLEAN WATER AND SANITATION, 10 REDUCED INEQUALITIES, 15 LIFE ON LAND, 16 PEACE, JUSTICE AND STRONG INSTITUTIONS, 17 PARTNERSHIPS FOR THE GOALS
Water for agricultural uses	1 NO POVERTY, 2 ZERO HUNGER, 5 GENDER EQUALITY, 6 CLEAN WATER AND SANITATION, 10 REDUCED INEQUALITIES, 15 LIFE ON LAND, 17 PARTNERSHIPS FOR THE GOALS
Water for industry and enterprise	1 NO POVERTY, 5 GENDER EQUALITY, 6 CLEAN WATER AND SANITATION, 10 REDUCED INEQUALITIES, 17 PARTNERSHIPS FOR THE GOALS
Human rights-based water resources management	1 NO POVERTY, 3 GOOD HEALTH AND WELL-BEING, 5 GENDER EQUALITY, 6 CLEAN WATER AND SANITATION, 8 DECENT WORK AND ECONOMIC GROWTH, 10 REDUCED INEQUALITIES, 17 PARTNERSHIPS FOR THE GOALS
Water, migration, displacement and climate change	1 NO POVERTY, 5 GENDER EQUALITY, 6 CLEAN WATER AND SANITATION, 10 REDUCED INEQUALITIES, 13 CLIMATE ACTION, 16 PEACE, JUSTICE AND STRONG INSTITUTIONS
Indigenous and traditional knowledge, and community water rights	1 NO POVERTY, 5 GENDER EQUALITY, 6 CLEAN WATER AND SANITATION, 10 REDUCED INEQUALITIES, 15 LIFE ON LAND, 16 PEACE, JUSTICE AND STRONG INSTITUTIONS
Water education and training	1 NO POVERTY, 4 QUALITY EDUCATION, 5 GENDER EQUALITY, 6 CLEAN WATER AND SANITATION, 10 REDUCED INEQUALITIES, 15 LIFE ON LAND, 17 PARTNERSHIPS FOR THE GOALS

Despite gender equality is increasingly at the forefront of international agendas, women remain disproportionately impacted by a lack of access to water and sanitation services; the water sector remains characterized by persistent gender inequalities at all levels, and overall, progress on the ground is clearly off track. Notably, the key role of women is still far from being reflected at the decision-making and governance level. Nevertheless, policy instruments, best practices and methods to overcome these challenges exist and could be readily implemented.

This analysis report takes stock of the progress made over the last 25 years since the Beijing Declaration and Platform for Action towards gender equality and the empowerment of women in the water sector. It offers a detailed overview of the challenges to gender equality in relation to seven key water-related development dimensions: access to water and sanitation, health, water-related employment, climate change, water governance, education and training, and enabling resources – data and funding.

Factors that lie at the base of the gender disparities in the water sector are most notably related to persistent social norms and stereotypes, and evident disconnection between policies and practice. Improved awareness on gender issues, better opportunities for women to access technical knowledge and more – and better use of – data and funding are urgently needed to effectively translate equality policies into practice and foster the necessary cultural and behaviour change in water resources management.

This report supports a large-scale, participatory Call for Action Initiative: “Accelerating gender equality in the water domain – bridging the data gap and developing concrete actions”. This Call is promoted by UNESCO WWAP together with a multi-stakeholder coalition of Member States institutions, United Nations agencies, international and regional organizations, NGOs, ODAs, and representatives of the private sector and civil society.



This publication is financed by the Italian Government and Regione Umbria.



Regione Umbria



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