

SPOTLIGHT ON GOAL 6

# FROM COMMODITY TO COMMON GOOD: A FEMINIST AGENDA TO TACKLE THE WORLD'S WATER CRISIS



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## 1

# INTRODUCTION

*“When you drink water,  
think of the source...”*

*Chinese proverb*

## WOMEN, WATER AND NATURE: A HOLISTIC APPROACH TO WATER USE AND WATER CONSERVATION

No life form on this planet can survive without water. Life on Earth depends on our careful stewardship of this common good. Many of the world's first inhabitants, and the keepers and protectors of water, often Indigenous women, have long considered water to be a sacred resource with a distinct bond to all life forms. Water, from this perspective, is not a thing to be possessed, but a living entity. It must be protected from environmental damage, waste and pollution and not exploited as a commodity or financial asset.<sup>1</sup>

With the global water crisis getting worse, not better, the time has come to heed the call for mainstreaming a new and radically different perspective focused on respect for the life-giving gifts that water provides and the imperative to return the gift through protection and conservation.<sup>2</sup>

### Water is a sacred, common good, not a commodity to exploit

The “rights of Nature” and “commodification” are two approaches that could not be more diametrically opposed in the way that they value and treat Nature and natural resources. While the “rights of Nature” approach promotes conservation, respect and reciprocity, and in doing so, sustainability, “commodification” lends itself to overconsumption, speculation and, ultimately, indifference.<sup>3</sup> The latter approach, dominant

The moral distinction between water as an extractive resource, often the current mainstream approach, and water as a sacred, common good, with its own independent and immutable right to exist and flourish, is arguably at the crux of the global water crisis. After all, a commodity can be purchased, owned, discarded and wasted. It lacks the right to exist or to be protected from extinction. Local and Indigenous women activists on the front lines of environmental justice, however, have long rejected this narrow viewpoint. In its stead, they advance local ecological knowledge and a “rights-of-Nature” approach that recognizes natural ecosystems’ innate rights. Under this paradigm, reciprocity and a harmonious co-existence with Nature are paramount.

in today's world, rarely considers other species and generally ignores issues of fair and equitable distribution across societies. It similarly discounts notions of balance, reciprocity, and the interdependence of living and non-living elements in Nature.

Under this myopic view, which emphasizes “taking” over “give and take”, the individual, communal and societal obligation to

*Protecting water ecosystems and ensuring the rights and well-being of women and girls go hand in hand.*

reciprocate the gift of water with the gift of protection is obscured.<sup>4</sup> Conservation and rejuvenation of natural resources become an afterthought, necessitated by the need to consume more, and not a prerequisite for use.

Extraction for profit, irrespective of the ecological cost, has irrevocably damaged humanity's relationship with Nature, and propelled climate change, a key driver of the global water crisis and a major threat to human well-being and the health of the

planet. In the 2030 Agenda for Sustainable Development, Sustainable Development Goal (SDG) 6 calls for ensuring by 2030 that water resources are sustainably managed and access to water and sanitation is achieved for all. Decades of misuse and poor management, however, have exacerbated water stress and deteriorated aquatic and terrestrial ecosystems around the world.

On its current trajectory, the world will undoubtedly fail to achieve SDG 6 by 2030.<sup>5</sup>

## WATER'S GIFT OF LIFE DEMANDS RESPECT, RECIPROCITY AND SUSTAINABLE UTILIZATION



### Water is a sacred resource



1 It gives life to all living beings, people, plants and animals



2 It must be safeguarded from harm, waste, pollution and exploitation



3 It has an innate right to exist, replenish and thrive



4 Humanity has a duty to protect the rights of water



5 Harmony with Nature preserves water for future generations

***The empowerment of women as custodians and protectors of water is achieved through the recognition and fulfilment of their rights.***

## Inequality in an increasingly water-scarce world

The amount of freshwater on Earth has remained constant for hundreds of millions of years. But these resources are not infinite. They will be exhausted if consumed beyond the bounds of renewability.<sup>6</sup> Despite this certain outcome, across countries, demand for water is growing and increasingly exceeding supply. Globally, water use has steadily risen by roughly 1 per cent annually over the last 40 years and is projected to grow another 20 to 30 per cent by 2050, fuelled primarily by increased industrial and domestic demand.<sup>7</sup> Heightened demand for water continues to be driven by population growth, socioeconomic development and increased adoption of resource-intensive consumption patterns.<sup>8</sup>

The vast majority of water withdrawal occurs in agriculture, notably irrigated agriculture (72 per cent), followed by industrial activities (12 per cent). Only 16 per cent of water is used by municipalities for consumer services and households, the poorest of whom know only too well the hardships associated with living without safe water and improved sanitation.<sup>9</sup> In the context of more water scarcity, not less, these inequalities in access are likely to grow. Women and girls in water-poor households, who already spend a large amount of time travelling long distances to collect water for their families, will face even greater hardships (see section 5).

## A new, feminist approach to reverse the global water crisis

Women with strong ties to the land and its resources have long advocated for a radically new perspective on water and development, one that recognizes, respects and defends the rights of water and all living beings that depend on it.<sup>10</sup> For too long, these perspectives have been marginalized and ignored. Efforts to codify them are growing (box 1) but remain limited in scope and reach.<sup>11</sup> According to the latest assessment of SDG target 6.5, on integrated water resources management, national efforts to balance competing water demands with environmental sustainability remain largely inadequate.<sup>12</sup> And despite a high-level commitment on paper to gender mainstreaming, in practice, gender perspectives are largely absent in planning, management and decision-making.<sup>13</sup>

A feminist approach to the water crisis recognizes the hugely important role women play in their communities as the main collectors, protectors and managers of water. It demands their equal representation in leadership and decision-making and calls

for engaging with women and their communities to incorporate their perspectives, including on the “rights of Nature” approach, as part of ecologically responsible water governance. Fundamentally, the approach draws a clear connection between social justice, ecological rights and women’s rights, and argues that to accelerate SDG 6, countries must accelerate SDG 5 on gender equality and vice versa.<sup>14</sup>

This report highlights human rights frameworks related to water from a gender perspective, reinforcing the argument that protecting water ecosystems and ensuring the rights and well-being of women and girls go hand in hand. It considers major causes of the water crisis (climate change, overconsumption, pollution and mismanagement) and gaps in access to safe drinking water and adequate sanitation. It draws attention to how gender inequality makes women more vulnerable to the water crisis, and to the exacerbating effect it has on women’s risk of poverty, poor health, food insecurity and violence. The report also

**Women have played an essential role in the global movement to transform Indigenous values and local ecological knowledge into enforceable ecological rights.**

discusses data challenges, underlining the urgent need to mainstream an intersectional gender perspective in monitoring SDG 6,

towards gaining a more nuanced and accurate portrayal of progress.<sup>15</sup> It concludes with a set of policy recommendations.

## BOX 1

### THE GLOBAL MOVEMENT TO TRANSFORM INDIGENOUS VALUES AND LOCAL ECOLOGICAL KNOWLEDGE INTO ENFORCEABLE LAWS

Since the mid-2000s, a growing body of ecological jurisprudence with strong ties to Indigenous beliefs and perspectives on the rights of sacred resources such as water and land to protection and preservation has taken root. Women, at the forefront of these efforts, have been vital in bringing about such reforms:

- In 2008, Ecuador, under its new Constitution, became the first country to grant Nature the right to exist, and to maintain and regenerate its life cycles, structure, functions and evolutionary processes.
- In 2010, national statutes in Bolivia granted Nature the right to exist free from human alteration, pollution and the effects of mega-infrastructure and development projects that harm existing ecosystems.
- In 2017, New Zealand's Mount Taranaki, a sacred place to the Maori People, became the country's third geographic feature to be granted legal personhood, with the same rights, powers, duties and liabilities of a legal person.
- In May 2019, the Yurok Tribal Council in California voted unanimously to establish the rights of the Klamath River to "exist, flourish, and naturally evolve; to have a clean and healthy environment free from pollutants; to have a stable climate free from human-caused climate impacts; and to be free from contamination by genetically engineered organisms".
- In India, the highest state courts have built a patchwork of laws recognizing the legal personhood status of glaciers, rivers and Mother Earth. In a 2022 case, a court invoked the principle of *parens patriae* jurisdiction, which requires the Government to act as a guardian for entities who cannot care for themselves.

Other countries, including Bangladesh, Colombia, Panama and Uganda as well as other communities and local governments, are enacting similar laws with a focus not only on the rights of Nature but also on the duties and obligations of humans to protect it. Court rulings in favour of implementation and enforcement have been instrumental in solidifying these reforms, but many gaps remain. As of September 2022, 24 countries have formally adopted "rights-of-Nature" provisions in their legal systems. Yet the low representation of women, Indigenous and local communities in water management and other decision-making bodies hinders the full transformative potential of these reforms.

**Source:** La Duke, 2020; Earth Law Center, 2016a, 2016b, "Bolivia" & "New Zealand"; Surma, 2022; Kauffman, 2022.

## 2

## BACKGROUND

*"I am the river and  
the river is me"*

*Traditional saying of the Whanganui iwi*

## THE RIGHT TO WATER IS THE RIGHT TO LIFE

Recognized in 2010 by the United Nations General Assembly as a basic human right, without which the "full enjoyment of life and all human rights" cannot be realized, the right to water is the right to life itself.<sup>16</sup> Access to water and water services is particularly important for women and girls, who are most often the primary users and providers of water in their households. Relatedly, inadequate access to sanitation compromises not only women's health and menstrual hygiene but can also expose them to violence. The right to sanitation is therefore a closely related but distinct human right.

Both the right to clean water and the right to sanitation are recognized as fundamental to advancing women's rights and dignity. As such, the 2015 United Nations General Assembly resolution on the rights to water and sanitation called on States to "promote both women's leadership and their full, effective and equal participation in decision-making on water and sanitation management" and ensure that a "gender-based approach is adopted in relation to water and sanitation programmes".<sup>17</sup>

In 2015, United Nations Member States adopted the 2030 Agenda for Sustainable

Development. It includes a commitment to ensuring the "availability and sustainable management of water and sanitation for all".<sup>18</sup> The 2030 Agenda acknowledges the centrality of water resources to sustainable development and the links among improved drinking water, sanitation and hygiene, and health, education and poverty reduction.<sup>19</sup> It embraces other important development goals, including growth and prosperity, but rejects the notion that environmental degradation is justified in the pursuit of higher living standards.

Under SDG 6 of the 2030 Agenda, Member States reaffirmed the human right to safe drinking water and sanitation (targets 6.1 and 6.2), committed to tackling water scarcity and pollution (targets 6.3 and 6.4), pledged to make more efficient use of water (target 6.4) and promised to protect water-related ecosystems (target 6.6).<sup>20</sup> They also emphasized the need for expanded international cooperation (target 6.a), integrated water resource management (target 6.5) and the participation of local communities in water management (target 6.b). Only target 6.2, however, makes explicit reference to "the needs of women and girls and those in vulnerable situations".<sup>21</sup>

### Defining the human right to safe drinking water and sanitation

Recent elaborations of the human right to safe drinking water have extended the focus from basic access to services to improved water

sources that provide "sufficient, safe, acceptable, physically accessible and affordable" water.<sup>22</sup> But entrenched discrimination, subjugation and

***Inadequate access to sanitation compromises not only women's health and menstrual hygiene but can also expose them to violence.***



oppression make women and girls, especially those from poor and marginalized communities, least likely to see these principles fully realized. The barriers they face are more

acute than those of male counterparts. Moreover, some obstacles are specific to women given their differentiated needs and unequal position and power in society.<sup>23</sup>

## GENDER EQUALITY AND A RIGHTS-BASED APPROACH TO WATER AND SANITATION



### AVAILABILITY

The average person needs at least 20 litres of water a day to meet their basic needs, but around the world, women and girls from the poorest communities make do with far less.<sup>24</sup> The shortfall puts millions of lives at risk. More than 800,000 women lose their lives every year due to insufficient access to safe water, sanitation and hygiene. Facilities for menstrual hygiene management are essential for women's health but remain inadequate for an estimated 500 million women and girls.<sup>25</sup>

Public investments in building and maintaining adequate gender-sensitive water infrastructure, including in remote rural areas and informal urban and peri-urban settings, is key to increasing the availability of water and sanitation. The funding gap however is alarming: 75 per cent of countries in 2022 reported insufficient funding for rolling out their national water, sanitation and hygiene plans and priorities. At the same time, aid for water and sanitation programming is decreasing, falling by 5.6 per cent between 2017 and 2020.<sup>26</sup>



### ACCESSIBILITY

Women and young girls in many developing countries are forced to walk long distances to collect water for their families, spending on average between three and six hours each day on this activity. More time collecting

water means less time for other pursuits, including employment and education, further entrenching gender inequalities and perpetuating poverty. In Sierra Leone, for instance, 62 per cent of households rely on women for gathering water; 15 per cent rely on girls.<sup>27</sup>

Inadequate access to water, sanitation and hygiene in school settings poses a barrier to education for millions of girls in low- and middle-income countries. In addition, transgender or non-binary students face a heightened risk of sexual assault in accessing sanitation facilities in schools. In the United States, one study revealed that 36 per cent of transgender or gender-non-binary students aged 13 to 17 with restricted bathroom or locker room access had been sexually assaulted in the previous year.<sup>28</sup>



### AFFORDABILITY

Millions of people around the world rely on private water providers, including tanker trucks, small carts and packaged bottled water, for clean water needs.<sup>29</sup> These are much more costly than publicly provided piped water but are often the only option where water infrastructure is underdeveloped. The cost of water is a growing issue, affecting women more than men. An analysis of data from 22 countries shows that women are more likely to say they struggled financially to pay utility bills, including the water bill (13 per cent of women

compared to 11 per cent of men).<sup>30</sup> These economic hardships in turn place women in some settings at a greater risk of sexual exploitation.<sup>31</sup>



Globally, an estimated 44 per cent of all domestic wastewater flows were not safely treated prior to release into the environment in 2020.<sup>32</sup> And close to 122 million people globally collect water from untreated

sources.<sup>33</sup> Inadequate access to improved water sources is most acute in sub-Saharan Africa, home to some 47 per cent of the world's people who rely on unimproved water sources.<sup>34</sup> Poor water quality and the associated health risks (see section 5) is a growing problem across countries and regions. Based on data from 162 countries, 3 in 10 people say they are dissatisfied with their water quality. Women in lower-income households are more likely to report water quality concerns, compared to women in higher income households, at 31 per cent compared to 29 per cent, respectively.<sup>35</sup>

### Ecological rights, human rights and gender equality

United Nations resolutions and subsequent Secretary-General reports on harmony with Nature emphasize the duty and responsibility of humanity to respect and protect the Earth's ecosystems.<sup>36</sup> They call for greater education and awareness of the interdependent relationship between humans and the natural world, and for implementation of public policies, development strategies and decision-making processes that support the well-being of people and planet. The tenth resolution on harmony with Nature, adopted by the United Nations General Assembly in 2018 called for more information and education around jurisprudence related to the Earth (see the "rights of Nature" discussion in box 1) and the promotion of sustainable lifestyles.<sup>37</sup> With an understanding that Nature cannot be seen as an unlimited provider of resources, programmes in support of communities reconnecting with the Earth

have been featured in reports of the Secretary-General on harmony with Nature but few have focused on the invaluable role women, and particularly indigenous women, play as defenders and protectors of the Earth and its natural resources.<sup>38</sup>

In global discourse, stakeholders working on issues related to planetary boundaries rarely engage with technocrats working on gender equality. Human rights advocates, with a human-centric approach, are often unaware of the value and perspective of an ecological rights view. At the grass-roots level, women, often the first to organize and take action in the face of disasters caused by natural hazards, are experienced in breaking these silos, but more efforts are needed at higher levels of decision-making, where the synergies between women's rights and ecological rights remain obscured from view.

# 3 THE ROOTS OF THE GLOBAL WATER CRISIS

Interdependent with other dimensions of sustainable development, water is vital for accelerating progress on all the SDGs. Yet mismanagement, pollution and overconsumption have depleted water supplies around the world. Over 2 billion people, a quarter of the world's population, live in water-stressed countries where the demand for water outstrips supply.<sup>39</sup> Further stress comes from the ecological devastation brought by climate change, which could irrevocably harm the delicate balance between people, water and well-being. Together, changes in hydroclimate conditions, population growth and growing demand for water for agriculture, industry

and personal use as well as water pollution and mismanagement have coalesced to produce a global water crisis.

Women, particularly those from chronically poor and marginalized groups, including refugee women, Indigenous women, and women with disabilities, bear the brunt of this catastrophic crisis – even as they are also often excluded from the management and governance of this precious resource. In 2023, an estimated 380 million women and girls in 26 countries live in a context of high or critical water stress. By 2030, the number is projected to rise to 471 million women and girls in 29 countries.<sup>40</sup>



## CLIMATE CHANGE

The number of people exposed to flood-prone areas has risen by almost a quarter since 2000 due to fallout from global warming, including extreme rainfall, rising sea levels and more intense hurricanes.



## INCREASED DEMAND

Globally, water use has steadily risen by roughly 1 per cent annually over the last 40 years and is projected to grow another 20 to 30 per cent by 2050.



## POLLUTION AND MISMANAGEMENT

According to the latest assessment of SDG target 6.5, national efforts to balance competing water demands with environmental sustainability remain largely inadequate.

## ROOT CAUSE 1: CLIMATE CHANGE

Too much water due to cyclones, floods and hurricanes or too little in the face of severe and prolonged droughts can destroy life and expose women and girls to intense hardships, including greater food insecurity, poverty and violence. Climate change is making natural disasters and climate hazards more frequent, severe and ultimately more destructive (see In Focus infographic). All life on Earth is at risk with every degree of warming (see Species Extinction graphic).

The number of people internally displaced due to climate change, conflict and wars has reached record levels. Forced from their homes, women face not only losses of assets, income and livelihoods but also worsening health and access to health care, and

greater exposure to and risks of violence, trafficking and sexual abuse.<sup>41</sup>

Gender discrimination heightens risks for women and girls in general, but vulnerability is greatest for those facing gender and other disadvantages related to socioeconomic standing, place of residence, race and ethnicity, and disability. Women and girls in slum and slum-like settings, for example, living in makeshift structures, are acutely impacted by climate hazards such as floods, landslides and fires.<sup>42</sup> Propelled by the inaction of city and government officials, women in such situations often lead activism on social and environmental concerns. Their efforts however largely go unrecognized.<sup>43</sup>

**Gender discrimination heightens climate-associated risks for women and girls.**

### Gender-responsive climate action

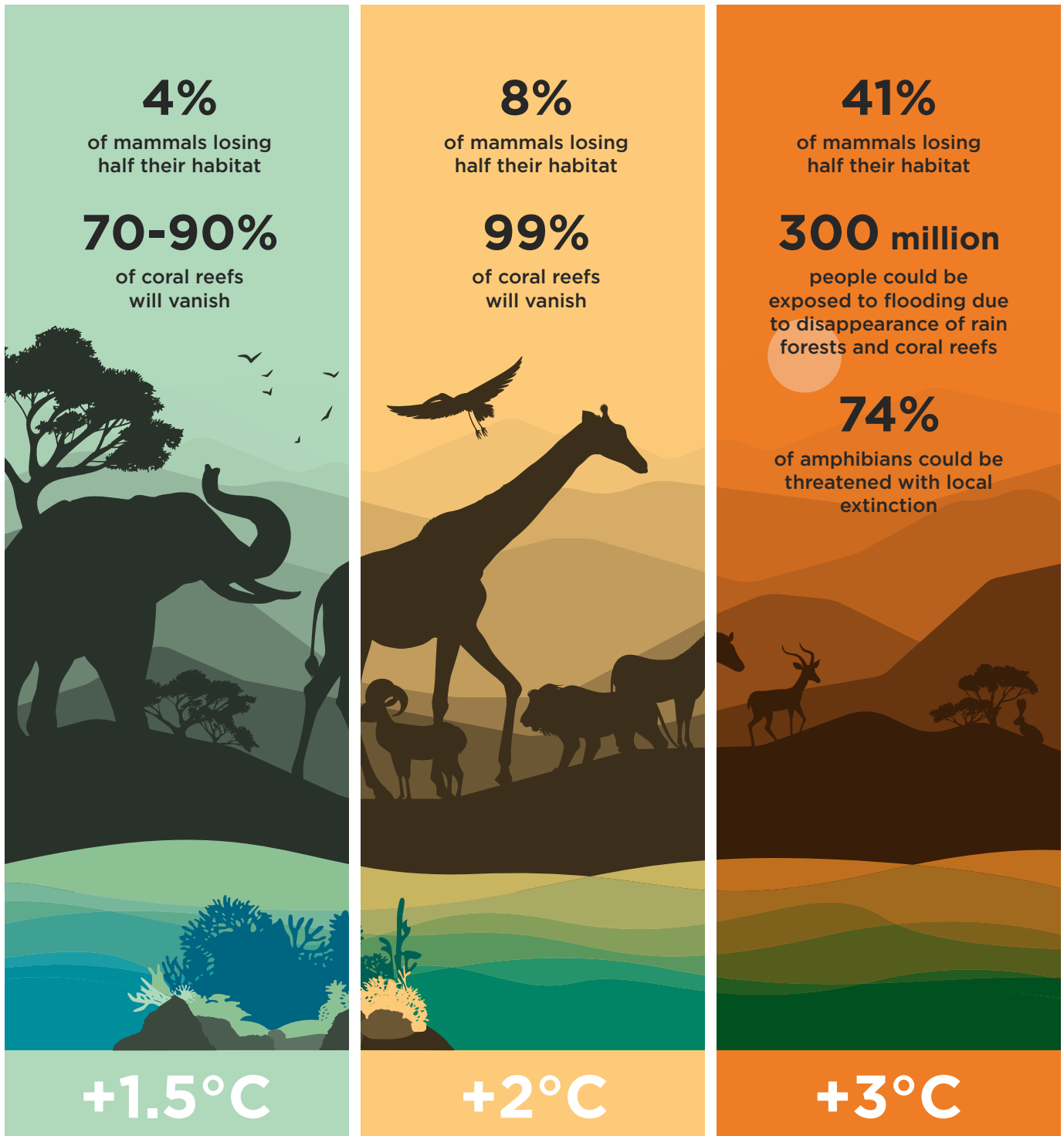
Loss and damage due to intense and powerful weather changes requires gender-responsive climate mitigation and adaptation. Some progress is evident in addressing these dimensions in national planning, but it needs to accelerate.

In the first generation of nationally determined contributions (NDCs) in 2015, only 50 mentioned women or gender. As of 2023, this number has climbed to 101. However, a mention of women and/or gender equality is not enough. A recent review of the NDCs found that only 55 mention specific adaptation actions referring to gender equality and only 23 recognize women as

agents of change in accelerating progress on climate commitments.<sup>44</sup> Thus, gender-responsive climate change adaptation and mitigation plans are still far from the norm. Significant additional efforts are needed, as climate change makes disasters more common and severe.

Likewise, more and better data on the specific impact and vulnerabilities of different societal groups, including marginalized groups of women and girls, are needed to address their specific needs (see section 6), including through informed planning and implementation of disaster risk reduction policies, programmes and strategies.<sup>45</sup>

## RISK OF SPECIES EXTINCTION INCREASES WITH EVERY DEGREE OF WARMING



Sources: [United Nations](#), 2023; [Antarctica Journal](#), 2023.

# IN FOCUS:

## MOUNTING RISKS FROM THE INTERSECTION OF WATER AND CLIMATE

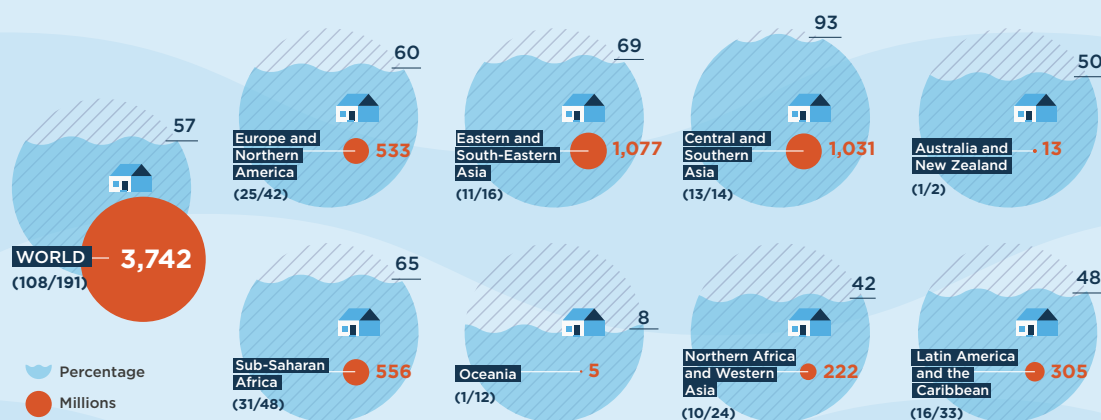
### FLOODS

Between 2000 and 2019, flooding events reportedly caused USD 650 billion in economic losses, affecting 1.7 billion people and resulting in over 100,000 deaths globally.<sup>46</sup> As a natural phenomenon, floods are not necessarily tied to climate change. Should current global climate trends continue, however, coastal flooding and land salinization is projected to increase as sea levels rise due to accelerated glacier and ice sheet melt.<sup>47</sup> Flash floods are projected to grow in magnitude due to increases in extreme precipitation,<sup>48</sup> and evidence already points to the increased frequency and intensity of extreme river flood events and decreased frequency of moderate floods.<sup>49</sup>

Globally, 108 out of 191 countries and areas, home to 3.7 billion women and girls, or 94 per cent of the world's female population, face high or very high exposure to floods.<sup>50</sup> Women and girls in Bangladesh, Myanmar and Viet Nam are at highest risk. The number of persons exposed to flood-prone areas has risen by almost a quarter since 2000 due to fallout from global warming, including extreme rainfall, rising sea levels and more intense hurricanes.<sup>51</sup>

**FIGURE 1a**

#### COUNTRIES WITH HIGH OR VERY HIGH EXPOSURE TO FLOODS (PERCENTAGE AND RATIO) AND THE FEMALE POPULATION IN THESE COUNTRIES (NUMBER), BY REGION, 2023



**Source:** UN Women calculations using European Commission, 2023; United Nations Population Division, 2022. See endnote i for detailed notes.

Global evidence confirms that during floods, economic instability, food insecurity, mental stress and disrupted infrastructure, among other factors, correspond with increases in gender-based violence, including physical and sexual violence and early and forced marriage.<sup>52</sup> In Pakistan, where the catastrophic flooding that began in mid-2022 has killed over 1,700 people and affected nearly 33 million people, disruptions in maternal health services impacted an estimated 650,000 women.<sup>53</sup> If the current situation continues, reduced access to contraception will likely lead to a substantial increase in unwanted pregnancies in flood-affected areas.<sup>54</sup>



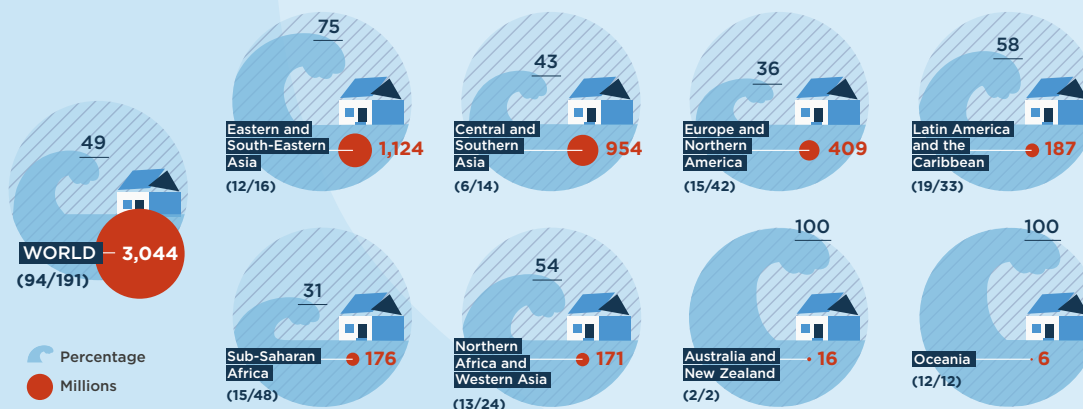
# TSUNAMIS

Climate change increases the threat of tsunamis and exacerbates their destructive power through interrelated geological changes such as sea level rise and increased risks of landslides, collapsing ice shelves, volcanic activity and earthquakes.<sup>55</sup> The 2004 Indian Ocean tsunami, felt simultaneously by coastal communities in Bangladesh, India, Indonesia, Malaysia, the Maldives, Myanmar, Singapore, Sri Lanka and Thailand, caused an estimated USD 9.9 billion in damages.<sup>56</sup> In Japan, the economic losses of the 2011 Pacific Ocean earthquake that triggered a tsunami and a nuclear disaster are estimated at USD 360 billion.<sup>57</sup>

Globally, 94 of 191 countries and areas, home to 3 billion women and girls, or 76.6 per cent of the world’s female population, face high or very high exposure to tsunamis.<sup>58</sup> Women and girls in Japan, Indonesia, Peru and the Philippines are at highest risk.

**FIGURE 1b**

**COUNTRIES WITH HIGH OR VERY HIGH EXPOSURE TO TSUNAMIS (PERCENTAGE AND RATIO) AND THE FEMALE POPULATION IN THESE COUNTRIES (NUMBER), BY REGION, 2023**



**Source:** UN Women calculations using European Commission, 2023; United Nations Population Division, 2022. See endnote ii for detailed notes.

Women are more vulnerable to the devastation of tsunamis than men, accounting for an estimated 70 per cent of the 230,000 deaths from the 2004 Indian Ocean tsunami.<sup>59</sup> In Indonesia, one of the worst hit countries, the death rate for men (aged 15 to 44) was half of that of women and children.<sup>60</sup> In coastal and agricultural regions, many men were out fishing at sea or working in the fields and avoided the wave, while most women were at home with their children.<sup>61</sup> Child survivor accounts from Aceh, Indonesia, chronicled how women waited for their husbands to return, prioritized the safety of their other family members and were less able to protect themselves.<sup>62</sup>

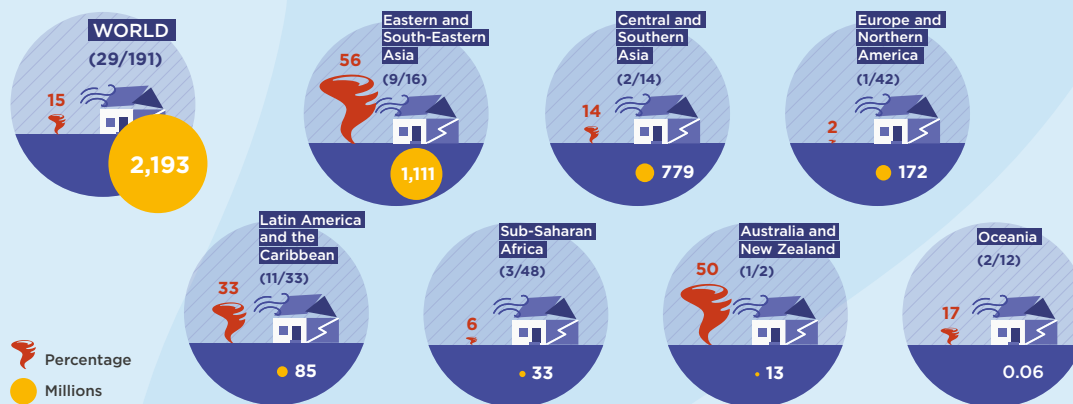
# TROPICAL CYCLONES

Climate change is making tropical cyclones more intense.<sup>63</sup> Forecasting the evolution and path of these rapidly developing phenomena is becoming increasingly challenging.<sup>64</sup> In 2022, Super Typhoon Noru, which evolved from a typhoon into a super typhoon in just six hours, affected around 1 million people in the Philippines, displacing more than 53,000 people and damaging nearly 57,000 dwellings. Losses in agriculture added up to USD 50.4 million.<sup>65</sup> In many contexts, sea level rise and coastal development exacerbate the impact of coastal flooding.<sup>66</sup>

Globally, 29 out of 191 countries and areas, home to 2.2 billion women and girls, or 55.3 per cent of the world's female population, face high or very high exposure to tropical cyclones.<sup>67</sup> Women and girls in the Bahamas, Japan and the Philippines are at highest risk.

**FIGURE 1c**

## COUNTRIES WITH HIGH OR VERY HIGH EXPOSURE TO TROPICAL CYCLONES (PERCENTAGE AND RATIO) AND THE FEMALE POPULATION IN THESE COUNTRIES (NUMBER), BY REGION, 2023



**Source:** UN Women calculations using European Commission, 2023; United Nations Population Division, 2022. See endnote iii for detailed notes.

Cyclones not only devastate property and uproot lives but also impact short- and long- term food production as saltwater mixes with the land and causes salt-intolerant crops to fail. Female subsistence farmers, who are less likely to have the ability to mitigate these shocks, are more susceptible to food insecurity, poverty and gender-based violence. In Mozambique, where 90 per cent of working-age women are engaged in agriculture, the recent cyclone Gombé had a devastating effect as crops were destroyed and impassable roads made it difficult for women to get to markets and sell their products.<sup>68</sup>





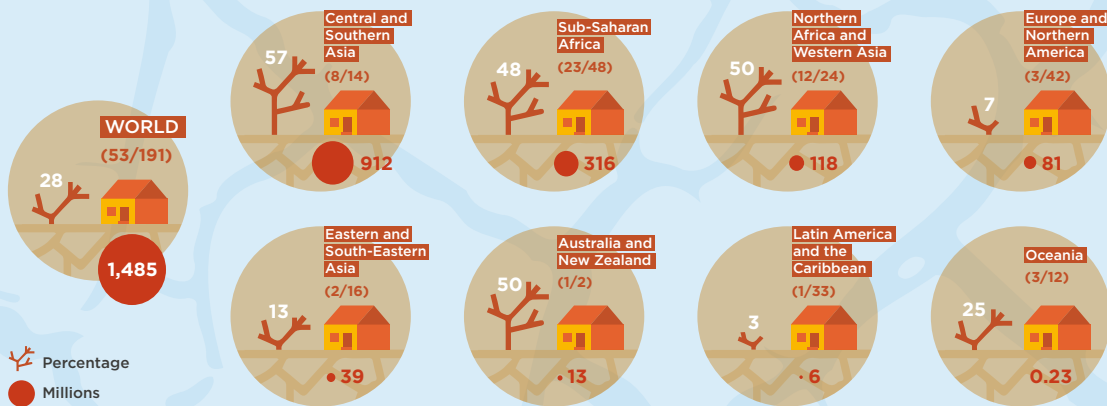
# DROUGHTS

Water scarcity, exacerbated by climate change, could cost some regions up to 6 per cent of gross domestic product (GDP) by 2050 due to impacts on health and well-being as well as a surge in migration and conflict.<sup>69</sup> Recent projections show that the number of drought days could increase by more than 20 per cent in most of the world by 2080, while the population exposed to this phenomenon could grow by around 9 to 17 per cent by 2030, and by around 50 to 90 per cent by 2080.<sup>70</sup>

Globally, 53 out of 191 countries and areas, home to 1.5 billion women and girls, or 37.2 per cent of the world’s female population, face a high or very high exposure to droughts.<sup>71</sup> Women and girls in Namibia, Somalia and Zimbabwe are at highest risk.

**FIGURE 1d**

## COUNTRIES WITH HIGH OR VERY HIGH EXPOSURE TO DROUGHTS (PERCENTAGE AND RATIO) AND THE FEMALE POPULATION IN THESE COUNTRIES (NUMBER), BY REGION, 2023



**Source:** UN Women calculations using European Commission, 2023; United Nations Population Division, 2022. See endnote iv for detailed notes.

Women and men adopt different coping strategies for water shortages. Men are more able to migrate during droughts and other climatic shocks. Women more often resort to reducing their water usage – drinking, eating and washing less – to ensure other household members have enough water. Droughts destroy agricultural yields, exposing women and girls to food insecurity and malnutrition, and, in the most catastrophic episodes, to famine, starvation and death. Prolonged droughts have worsened risks of child marriage and violence against women and girls.<sup>72</sup> The 2022 drought in the Horn of Africa resulted in a nearly fourfold increase in child marriage in affected areas of Ethiopia.<sup>73</sup> In Somalia, episodes of intimate partner violence and rape rose by 20 per cent.<sup>74</sup>

## ROOT CAUSE 2: UNBRIDLED INCREASES IN WATER DEMAND

In 2020, 18.2 per cent of all available renewable freshwater resources were being withdrawn.<sup>75</sup> Although this figure is below the water stress benchmark of 25 per cent, it conceals large variations across regions, countries and within countries at the subnational level. In reality, a large share of the world's population is living in water stress conditions,<sup>76</sup> and the number of women exposed to water stress is projected to grow in years to come.

In 2023, an estimated 380 million women and girls, or 9.5 per cent of the world's female population, live in the 26 countries with high or critical water stress (figure 2). This number is projected to increase to 471 million by 2030 and to 674 million by 2050, representing 11.1 per cent and 13.9 per cent of the world's female population, respectively.<sup>77</sup>

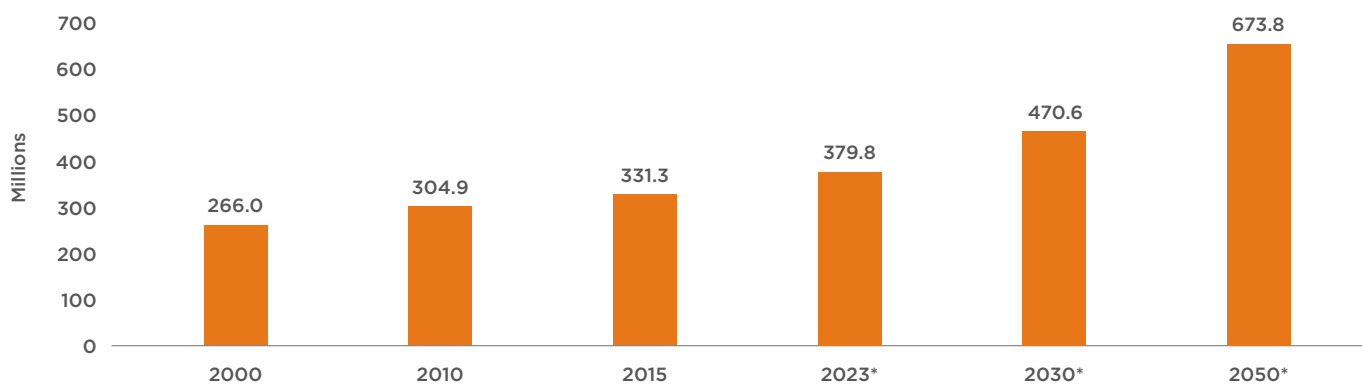
Disaggregated by geographic region, the latest available data show that over 80 per

cent of high and critically water-stressed countries are concentrated in Northern Africa and Western Asia (16 out of 26) and Central and Southern Asia (5 out of 26). The remaining water-stressed countries are in Eastern Asia and South-Eastern Asia (2 out of 26), Europe and Northern America (1 out of 26), Latin America and the Caribbean (1 out of 26) and sub-Saharan Africa (1 out of 26).<sup>78</sup>

An analysis of changes in water scarcity over a 40-year period (1971 to 2010) points to increases in the demand for water as a greater contributor to the current water crisis than decreases in the supply of water.<sup>79</sup> Women, particularly those from low-income regions of the world, where gender gaps in access to land and water resources are acute, are most harmed by the growing disconnect between water supply and demand. In regions such as Central America, for example, despite better water availability,<sup>80</sup> higher

**FIGURE 2**

### WOMEN LIVING IN COUNTRIES WITH HIGH OR CRITICAL WATER STRESS, 2000–2050, GLOBAL PROJECTIONS (NUMBER)



**Source:** UN Women calculations using United Nations, 2023 and United Nations Population Division, 2022.

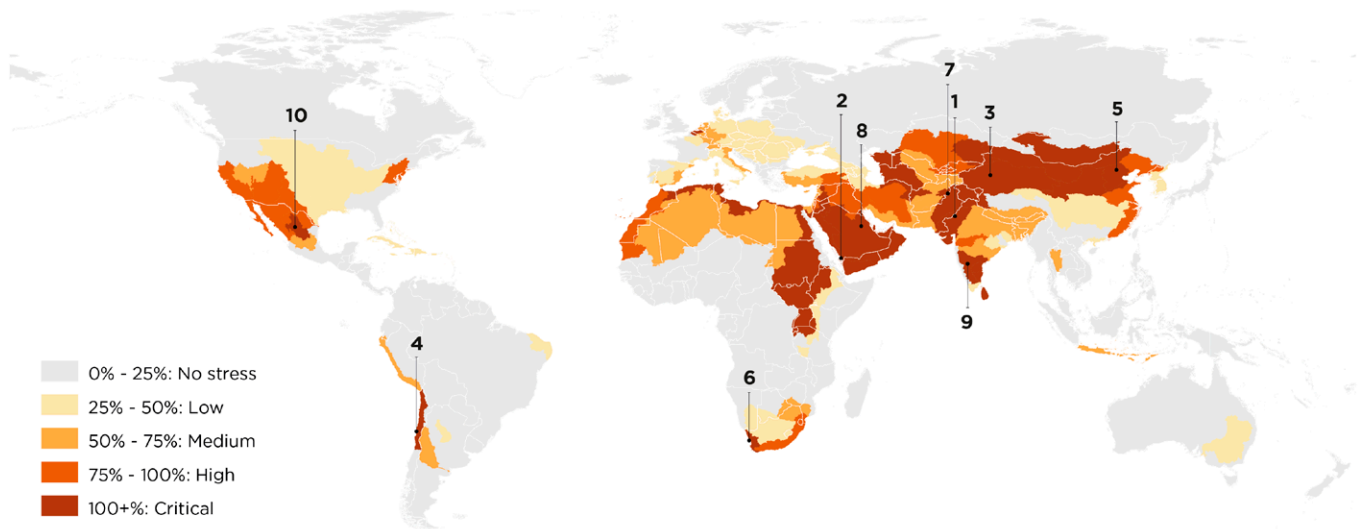
**Note:** Projections for 2023, 2030 and 2050 are derived using regional compound annual growth rates for the period from 2015 to 2020, using the medium-variant population projections for 2023.

water withdrawals over the same period intensified water scarcity. In contrast, regions with dwindling water resources overall have mitigated the effects by increasing water use efficiency and reducing industrial water withdrawal (e.g., some European countries, Japan and the United States of America).<sup>81</sup>

Efforts to improve efficiency and curb waste, including through technological measures and innovations, can go a long way but are not a universal remedy. In Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates, for example 84 per cent of collected wastewater is treated to safe levels but only 44 per cent so far is reused.<sup>82</sup> Unbridled water use and increases in

demand remain a major challenge for water security around the world – and this dilemma of demand outstripping supply is not likely to be easily resolved with technology alone.

Water stress, mapped by major river basins, shows the extent to which transboundary water resources are being exploited (figure 3). Hot spots of critical water stress exist within and across countries, including the Indo-Gangetic Plain and the North China Plain, which cover parts of China, India, Nepal and Pakistan, and virtually all of Bangladesh. Rivers in both plains directly or indirectly support the lives and livelihoods of the 1.6 billion women in these five countries, that is, 40.3 per cent of the world's female population.<sup>83</sup>

**FIGURE 3**
**WATER STRESS BY MAJOR RIVER BASIN, 2018 (PERCENTAGE)**

**Ten river basins with the highest levels of water stress:**

1. Sabarmati (India) 2. Red Sea, East Coast (Saudi Arabia, Yemen) 3. Tarim Interior (China) 4. North Chile, Pacific Coast (Chile)
5. Ziya He (China) 6. South Africa, West Coast (South Africa) 7. Indus (India, Pakistan, Tibet Autonomous Region of China, Afghanistan)
8. Arabian Peninsula (Oman, Saudi Arabia, United Arab Emirates, Yemen) 9. Krishna (India) 10. Mexico, interior (Mexico)

**Source:** FAO IMI-SDG6, adapted from FAO, 2021a.

**Note:** Water stress by major basin is calculated as the ratio between the amount of total freshwater resources withdrawn in the three economic sectors (agriculture, services and industry) and the total renewable freshwater resources after subtracting the amount of water needed to support existing environmental services, also indicated as environmental flows.

This scenario of water depletion is playing out within countries that generally face at least medium levels of water stress at the aggregate level, and in basins shared between two or more countries. Globally, 10 of the 20 major river basins with the

highest water stress are in China and India, including the Tarim Interior and the Sabarmati, where 242 per cent and 317 per cent of available freshwater resources are withdrawn per year, respectively.<sup>84</sup>

### Women's organizing makes a difference

The growing demand for water, driven by a combination of population growth, development and changing consumption patterns, is expected to be concentrated in lower- and middle-income countries.<sup>85</sup> As water stress rises, access becomes more difficult, and conflict and inequality among users more likely. Women, particularly those from poor and marginalized communities are most likely to lose out in these high-pressure settings despite their concern about environmental risks. These challenges notwithstanding, women have been mobilizing at the local level and make up the majority of

membership in grass-roots environmental organizations in some contexts.<sup>86</sup>

All processes to manage water must include women and local communities as they are at the epicentre of the water crisis. Stepped-up efforts are required to bring attention to the unique challenges that women and girls face in an increasingly water-stressed world, and to respond with laws, policies and programmes that address water stress. These efforts can build on many powerful examples of women tackling climate change and sustainably managing water resources (box 2).

## BOX 2

### WOMEN IN RIVER BASINS ADDRESS THREATS TO LIVELIHOODS AND THE ENVIRONMENT

- In the Pyanj River Basin of Tajikistan, women and girls increasingly find it difficult to collect water due to higher temperatures and reduced rainfall and glacier snow. With the support of the Climate Investment Funds, local women began taking part in water user associations and drinking water consumer groups and have learned climate-resilient agricultural practices. Improved knowledge, water storage infrastructure and irrigation systems have helped meet agricultural and non-agricultural water needs. Women reported spending 75 per cent less time collecting water.
- In the Nile Basin, connecting 11 countries, women from the Women and Water Diplomacy in the Nile platform are raising awareness of the imperative to integrate a gender perspective in water and development issues. Their efforts have helped to alleviate regional tensions and promote effective transboundary dialogue and peacebuilding.
- In 2017, women from the village of Kruščica in Bosnia and Herzegovina guarded the Kruščica River by occupying a bridge over it. Despite eviction attempts, they prevented the construction of two hydropower plants that threatened to destroy livelihoods and ecosystems in their community. Their resistance sparked a public debate culminating in a 2022 parliamentary ban on the construction of small hydropower plants.

Sources: Duarte, 2015; Troell & Yaari, 2019; Todorović, 2020; Kurtic, 2022.

## ROOT CAUSE 3: POLLUTION AND MISMANAGEMENT

Water and waste management refers to decision-making to sustainably meet the competing needs of water users. Without proper, effective, sustainable and equitable water, sanitation and waste management, water resources will become scarcer and/or polluted, and the needs of people, planet and industry will be met inequitably and unsustainably. According to the latest available data, as much as 80 per cent of the world's wastewater, including untreated sewage, agricultural runoff and industrial waste, is discharged back into the environment without treatment.<sup>87</sup>

Questions of who has access to water, how it is distributed, who maintains its systems, including waste management, and who makes decisions about its use and benefits are complex and shaped by many factors, including gender norms and power relations.<sup>88</sup> Transborder cooperation, focused on sustainable and equitable use of water resources, is also essential, particularly in hot spots that transcend country borders. All processes to manage water must include women and local communities as they are at the epicentre of the water crisis.

Yet women remain severely underrepresented in water management. In 2020, only 26 per cent of 170 countries had achieved high or very high levels of gender mainstreaming in water resources management and related laws and plans. While 24 per cent had made medium to high progress, 50 per cent had made very low, low or medium-low progress.<sup>89</sup> In 2019, only 23.7 per cent of managers in large utility companies (with

more than 200 employees) were women. In smaller utility companies, the share was even lower, 23.1 per cent.<sup>90</sup> Biased societal norms around women's ability to do technical jobs and a lack of gender-sensitive policies in the workplace are some of the barriers that inhibit the successful recruiting and retaining of women in the water sector.<sup>91</sup>

Women's exclusion from decision-making increases chances that water management will ignore their priorities. Such shortfalls have profound and lasting consequences, since sustainably and equitably managing water resources, particularly in the era of climate change, is essential for preserving life now and for generations to come.

Examples of women mobilizing to demand the conservation and protection of essential water resources are plentiful. Often it is this local organizing that has brought about change and a stop to pollution and contamination of drinking water (box 3). Gender-based discrimination and a lack of female representation in decision-making prevent more systemwide changes, however. Evidence of efforts to expand women's participation is also mixed with largely insufficient efforts to dislodge long-standing biases against women's participation much less leadership in decision-making. These inequalities lead to more disparities, as women's water-related deprivations produce more gender-based inequality, including in time spent on unpaid care work, the prevalence of food insecurity, poor health outcomes, and fewer prospects for education and work, among others.

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***Women's exclusion from decision-making increases chances that water management will ignore their priorities.***

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### More women, better choices

Where women do have equal voice and power, the results can be transformative. In the Goascorán river basin, shared between El Salvador and Honduras, activist

Jesy Barralaga has led efforts to improve water governance in a region lacking binational agreements and with limited national water management legislation and

structures. Her work is often regarded as instrumental in coordinated actions to address social and environmental issues in the area and to implement the Honduras Water Law.<sup>92</sup> In Kazakhstan and Kyrgyzstan, the Chu-Talas Water Commission is a testament to female leadership. Headed on both sides by a woman and informed by a working group dominated by women, the Commission is widely praised as one of the most successful bodies handling

transboundary water issues in Central Asia.<sup>93</sup> Research on women's leadership has found that women's flexibility, diplomatic and negotiation skills, and understanding and inclusion of the local context and perspectives play decisive roles in reaching agreements on sensitive transboundary issues. Women's presence in leadership positions has also been found to correlate with lower carbon emissions per capita at a national level.<sup>94</sup>

### BOX 3

#### WOMEN PROTEST COCA-COLA IN INDIA

- In 2000, a Coca-Cola bottling plant opened in Plachimada, in the Indian state of Kerala. Plant operations depleted nearby underground aquifers and contaminated existing wells, exacerbating pre-existing water stress. Protests and picketing, led largely by Indigenous Adivasi villagers, began in April 2002 and continued for about two years. Women and other protestors, supported by environmental groups, national activists and local media, raised concerns over the environmental impact of the bottling plant and demanded its permanent closure.

Their efforts succeeded in December 2003 when a local court ordered Coca-Cola to stop drawing groundwater due to the severe environmental damage it caused. Operations did not fully shut down until 2004, however. Although Coca-Cola was found financially liable for up to USD 48 million in damages, local women and farmers have not yet received reparations commensurate with their losses. Yet, the incident exemplifies the crucial role that women often have in confronting water-related challenges for their communities.

**Source:** Schills, 2011.

#### Nature-first approach to tackling the growing water crisis

The perspective that Nature and its resources are human property to be used and exploited as necessary has led us to the global crisis we now face. But as the preceding evidence showed, water resources are not infinite. Unless the health and rejuvenation of water resources are prioritized, the world will run out of drinking water. Not only will humanity suffer as a result, but the entire biosphere of plants and animals will be at risk. For the sake of humanity and all life forms, our shared

planet's geological processes, atmosphere and hydrosphere must be protected from water pollution, exploitation and mismanagement. An Earth-centred, Ecological rights-of-Nature approach tells us that all life forms and the Earth itself have just as much right to exist and thrive as human beings do. This worldview is key to changing mindsets and behaviors and promoting more sustainable lifestyles aligned with preserving the Earth's functioning ecosystems.

# 4 WATER JUSTICE FOR WOMEN AND GIRLS

## SAFE DRINKING WATER REMAINS OUT OF REACH FOR MANY WOMEN AND GIRLS

Too many women still do not have access to safe water. But there has been some progress (see infographic). As of 2022, more than one in every four women globally (27.1 per cent), or 1.07 billion, lack access to safely managed drinking water, down from over a third in 2000 (39.2 per cent). In 2022, coverage of safe drinking water services in sub-Saharan Africa is just 31.3 per cent. In contrast, between two thirds to three quarters of women in Central and Southern Asia (67.5 per cent), Latin America and the Caribbean (75.2 per cent), and Northern Africa and Western Asia (76.9 per cent) have access to safe drinking water. Coverage is nearly universal in Europe and Northern America (94.3 per cent).<sup>95</sup>

Among the 1 billion women who lack access to safely managed drinking water globally in 2022, an estimated 205.1 million drink water from unimproved sources or surface water, down from 494.7 million in 2000, a 58.5 per cent decline. The great majority facing acute deprivation reside in sub-Saharan Africa (124.2 million or 60.6 per cent), Central and Southern Asia (30.6 million or 14.9 per cent) and Eastern and South-Eastern Asia (30.3

million or 14.8 per cent) where 8.2 per cent and 1.4 per cent of women live on less than USD 1.90 per day, respectively (figure 4).<sup>96</sup>

In the remaining developing regions, 15.5 million women drink water from unimproved sources or surface water, including 6.6 million in Latin America and the Caribbean (3.2 per cent), 6.4 million in Northern Africa and Western Asia (3.1 per cent) and 2.5 million in Oceania (excluding Australia and New Zealand) (1.2 per cent). In Oceania (excluding Australia and New Zealand), the estimated number of women without an improved water source increased by over a third between 2000 and 2022, from 1.9 million to 2.5 million (35.0 per cent). All other regions experienced declines of at least 69 per cent, outside sub-Saharan Africa at 16.4 per cent. Projections indicate that 145.1 million women globally will rely on unimproved water sources or surface water by 2030 and 77.4 million by 2050. The share in sub-Saharan Africa is projected to account for around three fourths of the total by 2030 (107.3 million or 74 per cent) and for close to 90 per cent in 2050 (68.5 million or 88.5 per cent).<sup>97</sup>

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*More than one in four women globally lack access to safely managed drinking water.*

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### Water gaps compound development deficits

The links between sustainable water, sanitation, hygiene and other dimensions of sustainable development virtually guarantee that populations still struggling with

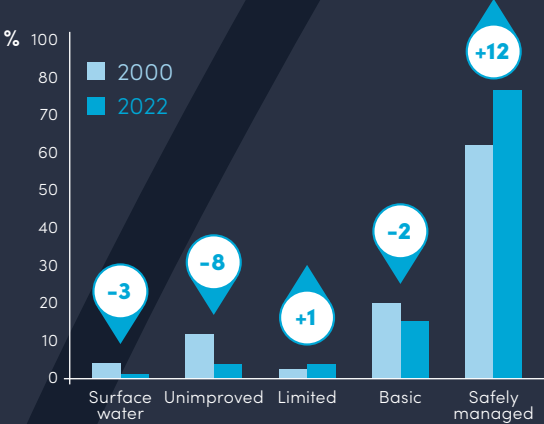
inadequate access to water and sanitation will make the most limited improvements in education, health, poverty and hunger reduction, among other core concerns.



# WATER AND SANITATION access for women and girls

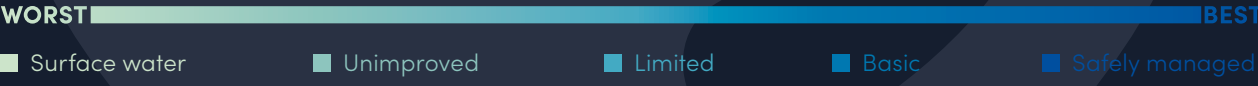
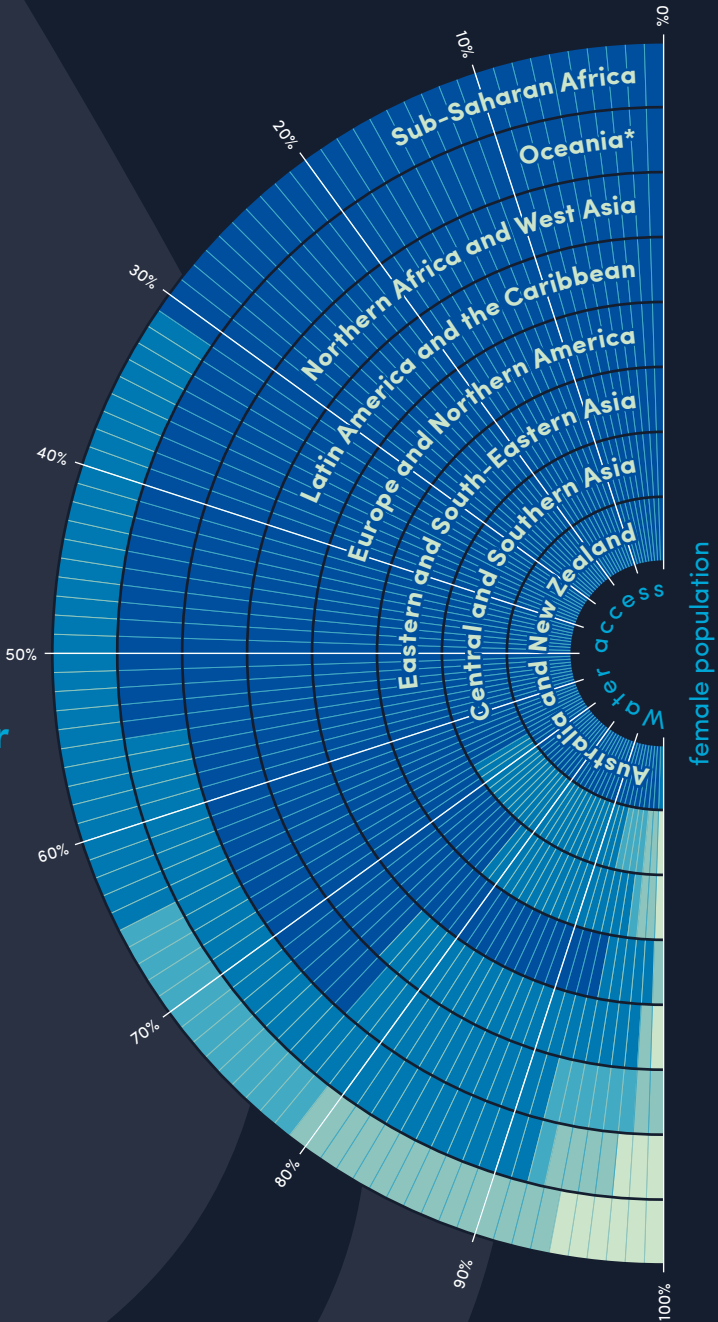
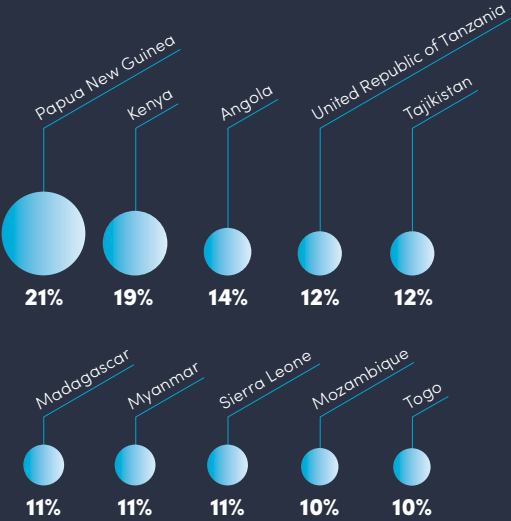
## Global access to safe drinking water

Percentage of the global female population accessing the following



## Bottom 10 countries for drinking water

Percentage of women who drink surface water in 2022





# 1 billion women

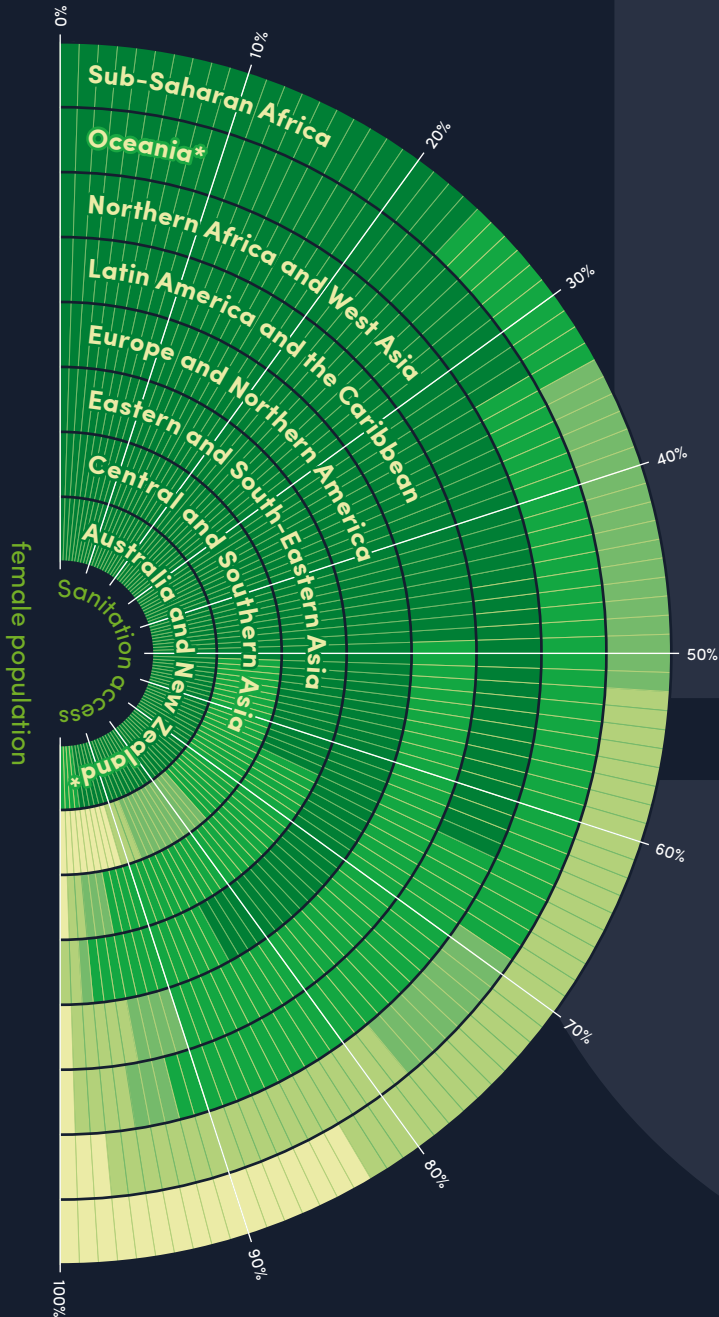
LACK ACCESS TO SAFELY MANAGED DRINKING WATER

# 1.7 billion women

LACK ACCESS TO SAFELY MANAGED SANITATION

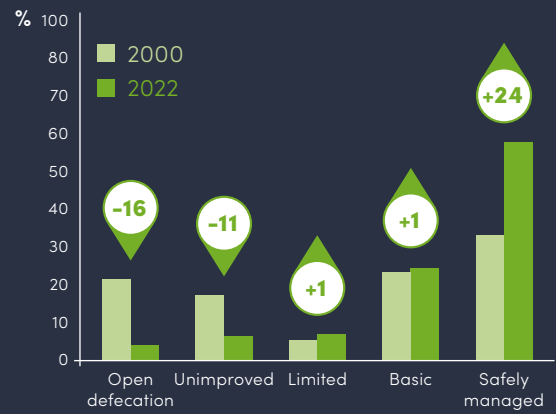
# In 7 in 10 households

WOMEN AND ADOLESCENT GIRLS ARE PRIMARILY RESPONSIBLE FOR WATER CARRIAGE USING SOURCES LOCATED OFF PREMISES



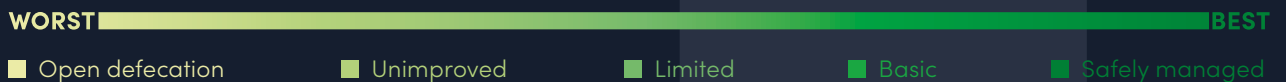
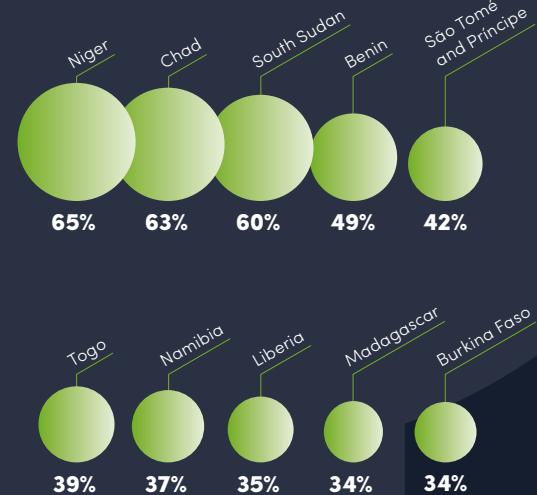
## Global access to safely managed sanitation

Percentage of the global female population accessing the following



## Bottom 10 countries for sanitation

Percentage of women who defecated in the open in 2022

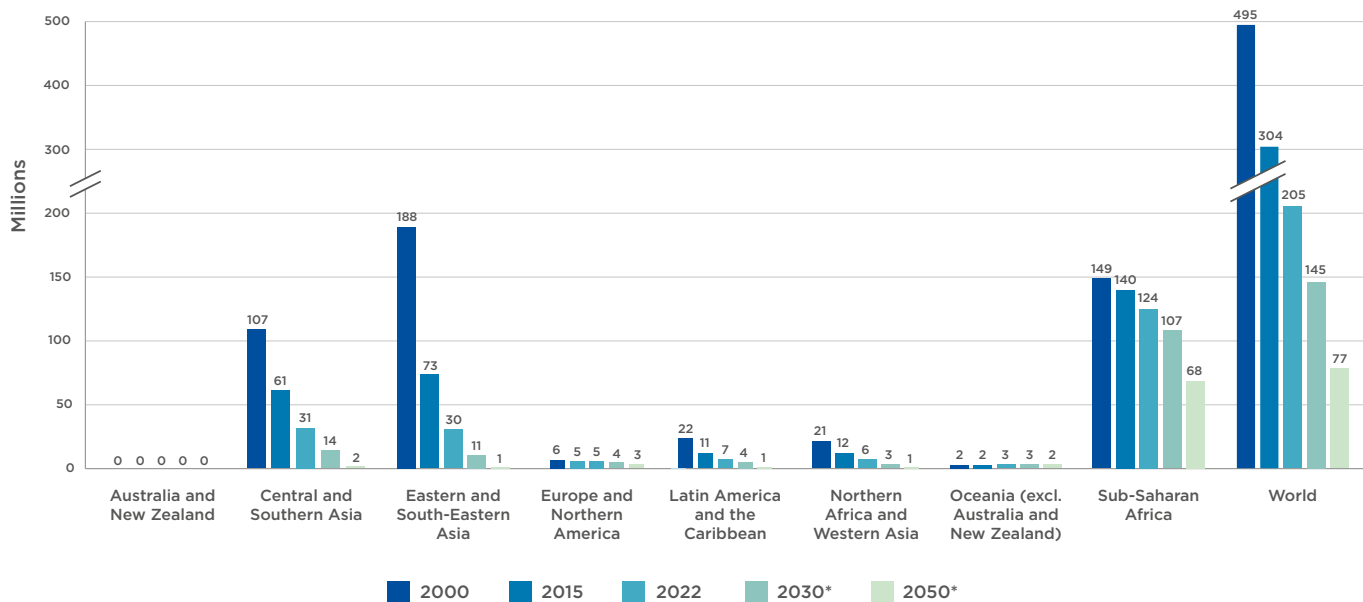


Source: UN Women calculations using WHO and UNICEF, 2023 and United Nations Population Division, 2022.<sup>38</sup>

\* National and rural data on access to safely managed drinking water and/or sanitation are lacking, therefore, estimates for urban areas are shown.

**FIGURE 4**

**WOMEN DRINKING WATER FROM UNIMPROVED SOURCES OR SURFACE WATER, BY REGION, 2000-2050 (NUMBER)**



**Source:** UN Women calculations using WHO and UNICEF, 2023 and United Nations Population Division, 2022.

**Note:** Projections for 2030 and 2050 are derived using the regional compound annual growth rates for the period from 2015 to 2019. Projections assume that the share of women drinking water from unimproved sources or drinking surface water is equal to that of the general population. Medium-variant population projections are used to derive the estimate. The notch on the y-axis shown as “//” indicates that the axis is not drawn to scale after the 200 mark.

Inequalities in access to safe drinking water and sanitation do not affect everyone equally. The greater need for privacy during menstruation, for example, means women and girls and other people who menstruate may access shared sanitation facilities less frequently than people who do not, which increases the likelihood of urinary and reproductive tract infections. Where safe and secure facilities are not available, choices to use facilities are often limited to dawn and dusk, which exposes at-risk groups to violence.<sup>99</sup>

As of 2022, more than 4 in every 10 women globally (42.9 per cent) lack access to safely managed sanitation, down from almost 7 in

every 10 in 2000 (67.7 per cent) (see infographic). During this 22-year period, the number of women lacking access to safely managed sanitation declined by an estimated 491 million, from 2.2 billion to 1.7 billion. In 2022, half or fewer than half of women in sub-Saharan Africa (24.4 per cent), Latin American and the Caribbean (49.2 per cent), and Central and Southern Asia (50.8 per cent) had safely managed sanitation facilities, compared to over two thirds to near universal coverage in Eastern and South-Eastern Asia (64.2 per cent), Northern Africa and Western Asia (64.5 per cent), Europe and Northern America (84.2 per cent), and Australia and New Zealand (95.8 per cent).<sup>100</sup>

## The poorest women and girls lose out across and within countries

Across all countries, access to safe drinking water and safely managed sanitation is directly linked to social inequality, especially for women and girls.<sup>101</sup> Data reveal large disparities in access in historically marginalized communities, including based on race or ethnicity, Indigenous status,

income and location (box 4). Lack of access in schools and work sites, more common in poorer communities, results in lower attendance and achievement and can ultimately isolate women and girls from education systems and job markets, further perpetuating poverty and social inequality.<sup>102</sup>

### BOX 4

#### THE WATER DIVIDES IN HIGH-INCOME COUNTRIES: INSIGHTS FROM THE UNITED STATES

In high-income countries, social and political inequalities intersect to exacerbate gaps in spatial distributions within infrastructure, including safe drinking water services. For decades, the commodification of water and structural discrimination have driven water insecurity among many Native American communities in the United States of America. For example, much of the water stress and insecurity experienced by the Navajo (Diné) Nation in the United States derives from the use of settler law to curtail Indigenous tribal sovereignty and water rights and the diversion of resources to urban centers as opposed to rural locations. In 2010, the Navajo Nation and the State of Arizona agreed on the “Lower Basin River Settlement”, which stipulated that the Navajo Nation would not contest existing dams and diversions of water, in exchange for a water infrastructure project connecting the Colorado River to the Hopi (Hopituh Shi-nu-mu) reservation. In the end, no such infrastructure was delivered.

Disputes over water in the American South-West are further exacerbated by climate change, population growth and unchecked agriculture booms that are depleting the water supply. Citizens of the Navajo Nation, including Navajo women with expertise and a cultural role as collectors and protectors of water, have been blocked by the United States Federal Government for representing their own interests in these disputes, arguing that the federal government represents tribal interests in these disputes. The question of the Navajo Nation’s water rights is currently in front of the United States Supreme Court.

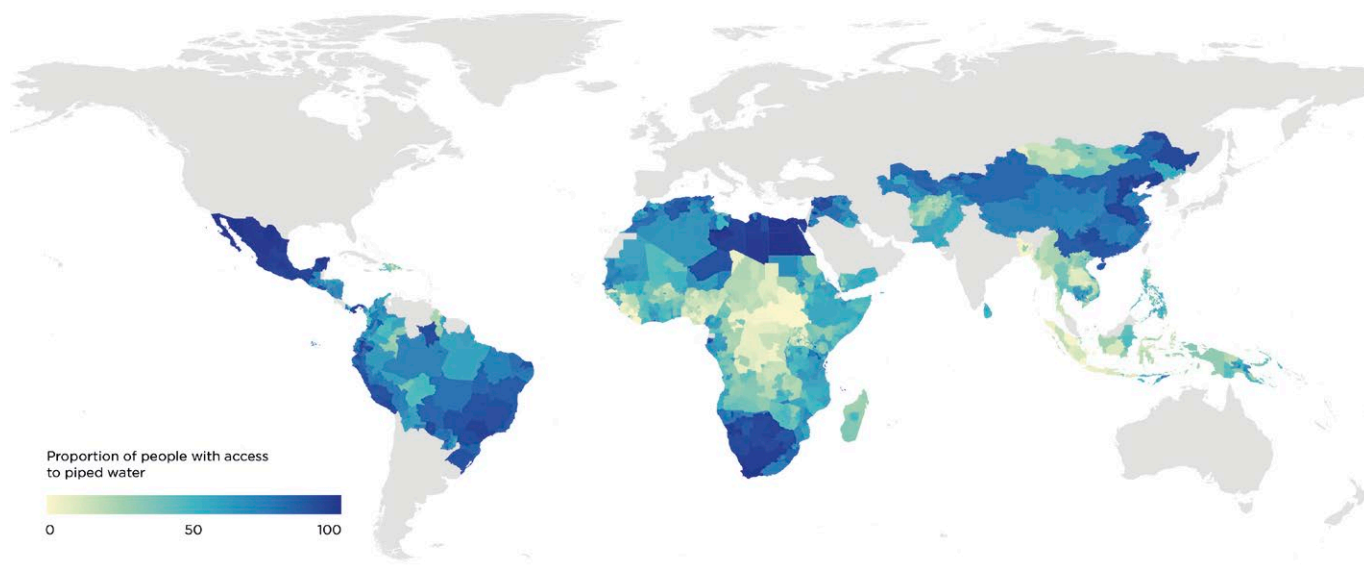
These disputes endanger the well-being of Native American communities and expose Native American women to violence. Women of the Standing Rock Sioux Tribe, for example, has been the leading force in protests against the Dakota Access Pipeline. Their opposition to the pipeline’s construction has been met with physical violence, incarceration, sexual harassment, and other human rights violations at the hands of the police and security forces.

Other racially marginalized groups in the United States also experience water accessibility, insecurity and quality challenges. Data from the Census Bureau from 2013 to 2017 confirmed that Black, Hispanic and Asian households in the 50 largest metropolitan areas were 34 times more likely to lack piped water compared with White, non-Hispanic households. Data from the Environmental Protection Agency from 2016 to 2019 showed that Black, Hispanic and Asian households were 40 per cent more likely to be served by public water systems that violated the Safe Drinking Water Act, and that compliance took longer to achieve among these communities. Not surprisingly, only around 2 in every 10 Hispanic Americans (19 per cent) and Black Americans (24 per cent) report being very confident in their tap water, as opposed to 4 in every 10 White Americans (43 per cent).

**Sources:** [National Women’s Law Center, 2016](#); [The Journalist’s Resource, 2020](#); [European Public Health Alliance, 2021](#); [Forbes, 2021](#); [Wilson et al., 2021](#); [OHCHR, 2022](#); [Harvard, 2022](#); [Sullivan, 2023](#).

FIGURE 5a

### SUBNATIONAL ACCESS TO PIPED WATER, LOW- AND MIDDLE-INCOME COUNTRIES, 2017 (PERCENTAGE)



Source: IMHE, 2023.

Governments, as duty-bearers in realizing the right to water, play a key role in developing adequate water supply infrastructure, upgrading existing physical infrastructure, and ensuring the allocation of resources to reach those left behind. Georeferenced data show, however, that gaps in access to improved water sources and sanitation, including piped water and/or sewer or septic tanks, occur in low- and middle-income countries, including upper-middle-income countries.

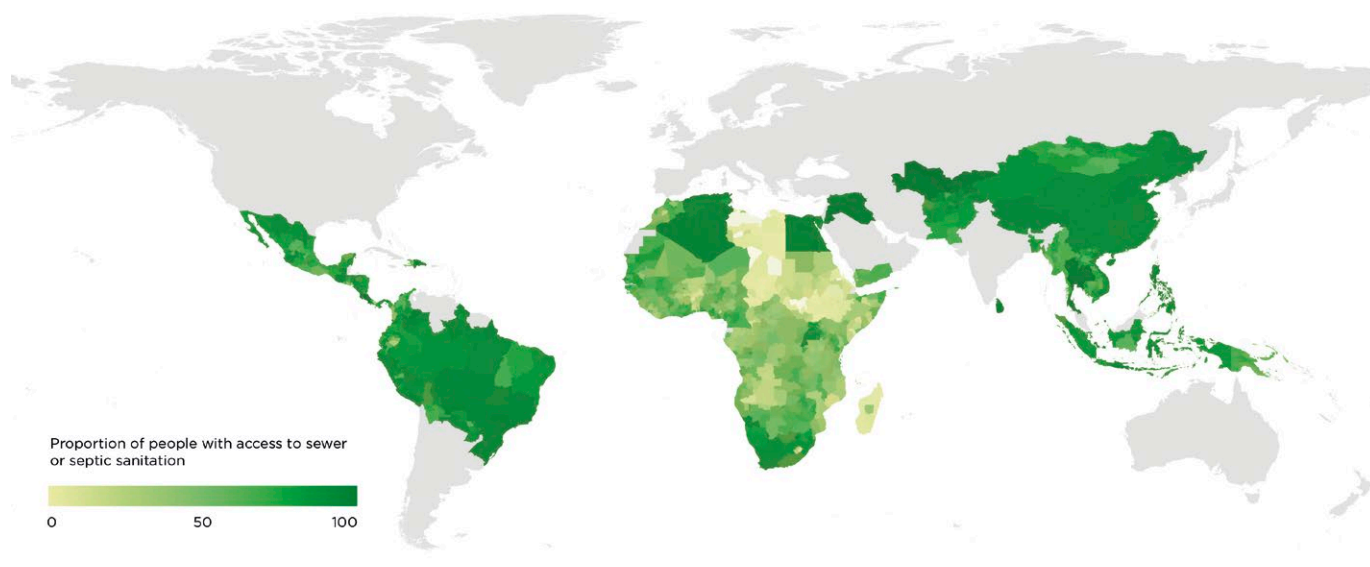
In addition, the data reveal that despite national improvements, subnational access varies widely (figures 5a and 5b), typically falling along the lines of much greater access in urban areas and among urban women, compared to rural areas and rural women, and among the richest compared to the poorest. In Palau, for example, 96 per cent of urban residents had access to safely managed drinking water in 2020, compared to 70 per cent of rural counterparts.<sup>103</sup>

In Mongolia, 47 per cent of Ulaanbaatar residents have access to piped water compared to only 6 per cent of the residents of Bayangovi. In Brazil, 94 per cent of Sao Paulo residents have improved sanitation compared to only 39 per cent of the residents of Tocantins. And in Papua New Guinea, less than 13 per cent of residents from the East Sepik province have access to piped water compared to 70 per cent of residents of the National Capital District.<sup>104</sup> Overlaying these data by income, race or ethnicity and other markers of inequality confirms that gaps in access mirror disparities by sociodemographic characteristics.<sup>105</sup>

For women and girls from the poorest households, such disparities generally translate into more time collecting water. In Benin, 13 per cent of the population lives in households with water more than 30 minutes away (round trip). Among the poorest households, the share is higher; 23 per cent

FIGURE 5b

### SUBNATIONAL ACCESS TO SEWER OR SEPTIC SANITATION, LOW- AND MIDDLE-INCOME COUNTRIES, 2017 (PERCENTAGE)



Source: IMHE, 2023.

live half an hour or more away from the closest water sources compared to 3 per cent of the richest households. Data disaggregated by wealth and water source show that women and girls from the poorest households are much more likely to lack

access to piped water and instead depend on rivers, streams and unprotected wells or springs. In Madagascar, 86 per cent of women in the poorest households rely on these water sources compared to only 8 per cent of women in the richest households.<sup>106</sup>

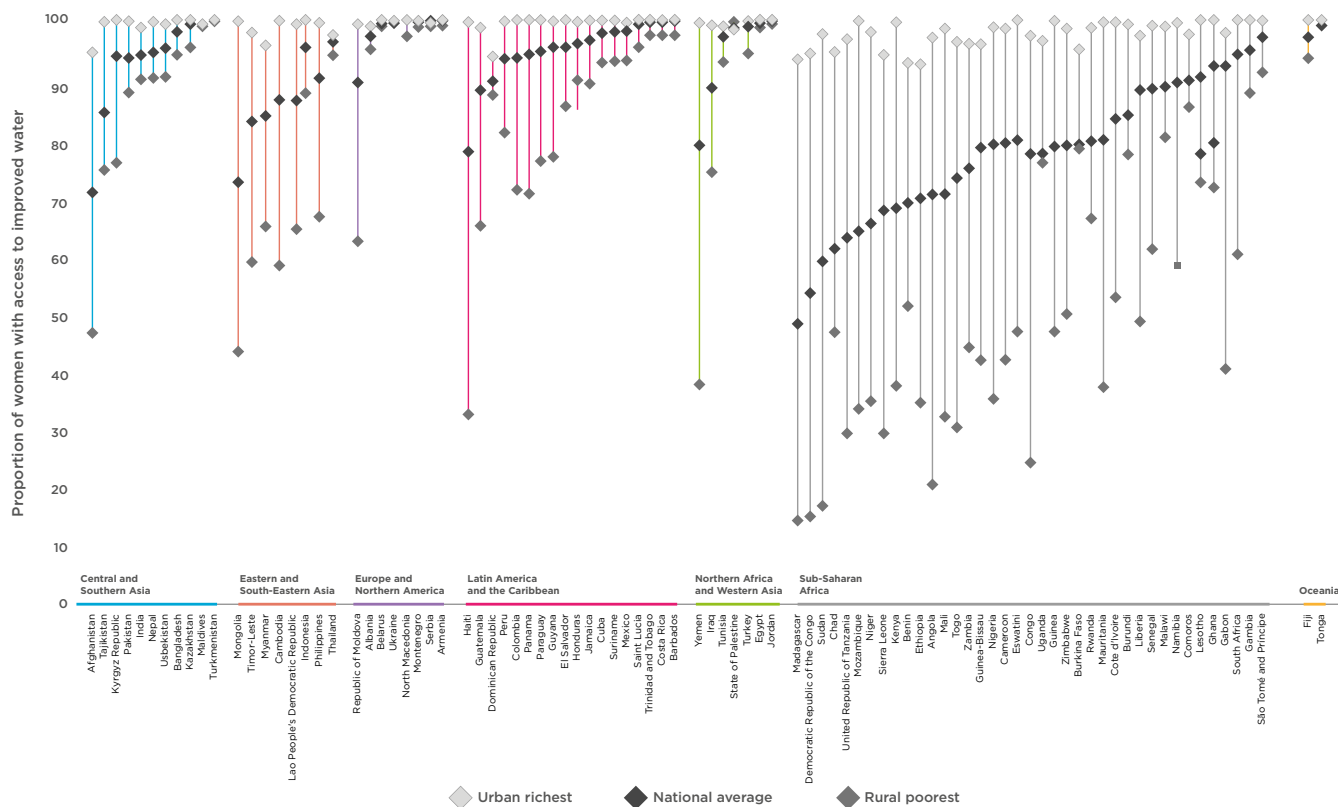
#### Drowning in inequality from multiple forms of discrimination

Women and girls at the intersection of compounding forms of socioeconomic inequality are among the most vulnerable to water scarcity. Those in the poorest rural households, facing multiple forms of marginalization, exclusion and neglect, are some of the most disadvantaged. Based on data from 93 low- and middle-income countries, income and location-based differences in access to improved water sources result in women in the poorest rural households being systematically worse off in access to water compared to the national average and to the rates of women in the

richest urban households. The data, however, also reveal examples of countries where the rates of access are not very large or different by location and/or income. The differences range from less than 1 percentage point among women in Armenia, Belarus, Egypt, Jordan, Maldives, Montenegro, Serbia, Tonga and Turkmenistan to 82 percentage points among women in the Democratic Republic of the Congo, Madagascar and Sudan (figure 6a).

FIGURE 6a

ACCESS TO IMPROVED WATER AMONG WOMEN AGED 15 TO 49, BY LOCATION AND WEALTH IN SELECTED LOW AND MIDDLE-INCOME COUNTRIES, 2011–2021 (PERCENTAGE)



**Source:** UN Women calculations from the Demographic and Health Surveys (DHS), 2011–2021 and Multiple Indicator Cluster Surveys (MICS), UNICEF 2012–2020, based on a sample of 93 countries. Latest available survey data for women and girls living in households with access to improved water has been used.

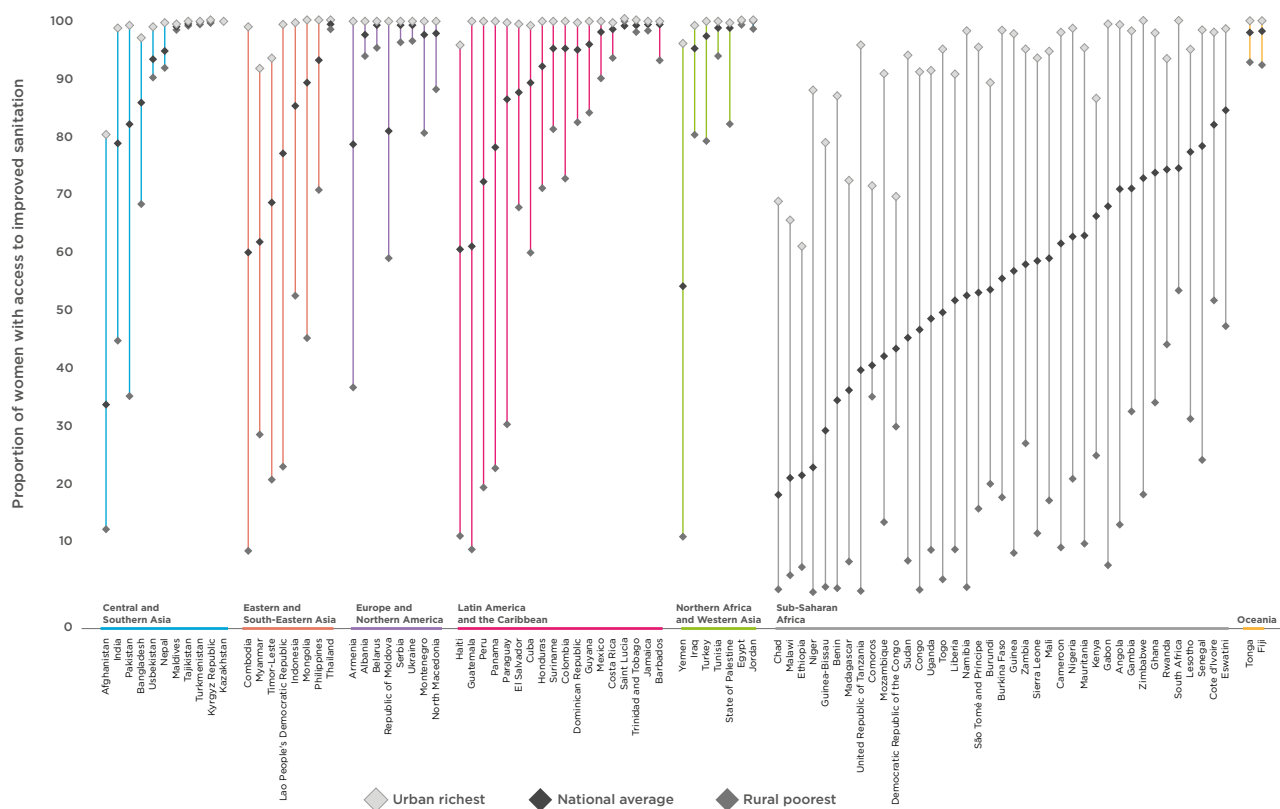
Income- and location-based exclusion from water resources often mirrors marginalization rooted in ethnic or Indigenous community affiliations. Women and girls confronted by these compounding forms of discrimination typically have the most limited access to improved water sources. In Kenya, 73.3 per cent of Kalenjin women from the poorest rural households lack access to improved water sources compared to less than 1 per cent of Kikuyu women from the richest urban households. In Colombia, Guatemala and Mexico, access to piped water on premises is higher among non-Indigenous groups compared to Indigenous ones. The gap by

Indigenous status is present in rural and urban areas alike.<sup>107</sup>

While rural residents generally have lower access to basic water and sanitation infrastructure (figure 6b), service deficiencies can be equally dire in overcrowded urban slums. Urbanization on balance expands access to improved water and sanitation, but among the poorest urban dwellers in informal settlements, exclusion remains commonplace. In Guatemala, for example, only 1 in 7 women in the poorest households in urban settings reported having piped water.<sup>108</sup>

FIGURE 6b

## ACCESS TO IMPROVED SANITATION AMONG WOMEN AGED 15 TO 49, BY LOCATION AND WEALTH IN SELECTED LOW AND MIDDLE-INCOME COUNTRIES, 2011–2021 (PERCENTAGE)



**Source:** UN Women calculations from the Demographic and Health Surveys (DHS), 2011–2021 and Multiple Indicator Cluster Surveys (MICS), UNICEF 2012–2020, based on a sample of 93 countries. Latest available survey data for women and girls living in households with access to improved sanitation has been used.

Longitudinal data needed to assess change over time remain largely unavailable. Data that are available, however, point to divergent patterns. The pace of progress among the furthest behind is much slower than national averages. In some cases, progress is non-existent. In South Africa, the gap between the rural poorest women and girls with the lowest access to improved water and sanitation and their richest urban counterparts with the highest access closed as access rates in rural areas caught up.<sup>109</sup> But in Ethiopia, while the national average for improved sanitation rose from 0.9 to 20.6 per cent between 1999 and 2019, and access

for women and girls in the richest urban households increased from 5.2 to 60.4 per cent, access among women and girls in the poorest rural households improved only marginally, from 0 to 4.5 per cent, resulting in widening inequality.<sup>110</sup>

Based on a sample of 23 countries with data available from the early to the late 2000s, subnational disparities in access to improved water among the richest and the poorest decreased from 3.6 times to 1.6 times.<sup>111</sup> But in five countries, including Benin, Ethiopia, Haiti, Malawi and Turkmenistan, access to improved sanitation among the poorest



people remained barely unchanged (figure 7). Despite considerable progress in access to water, subnational inequalities remain a major obstacle. The much slower rate of change in access to adequate sanitation services suggests even greater challenges in this critical area.

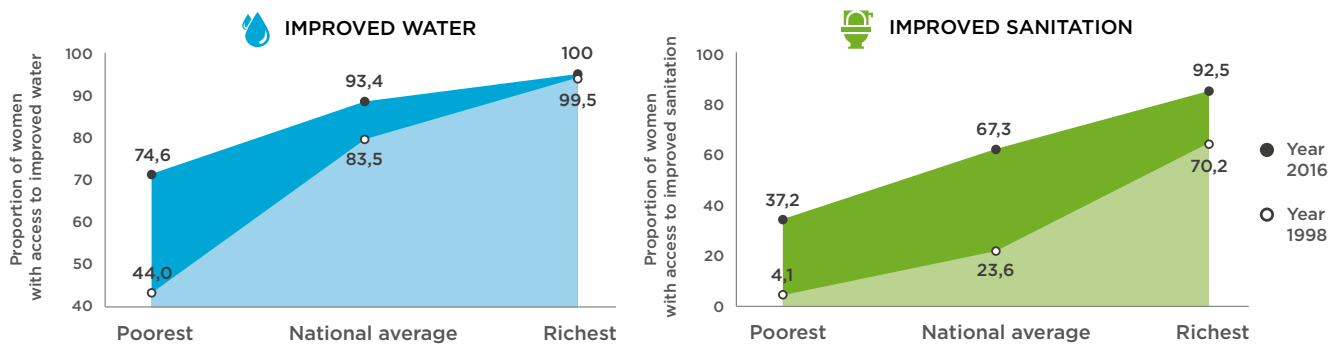
Although some data are available, the focus on access to water and sanitation at the household versus the individual level means that women and girls who are furthest behind, facing compounding forms of inequality in accessing water and sanitation, remain invisible. This makes it impossible to comprehensively assess progress on SDG 6

from an intersectional perspective. Since the exclusions (for example, in access to quality health care, education and economic resources) that marginalized groups face in society are reproduced in the water sector, a commitment to leaving no one behind and reaching the furthest behind first calls for tools to account for progress across all groups and subgroups, especially those made vulnerable by layers of abuse and exclusion due to their gender, race or ethnicity and income, among other factors. Investments in the regular and timely production of data disaggregated by sex and other socioeconomic characteristics will be essential for monitoring and achieving SDG 6.

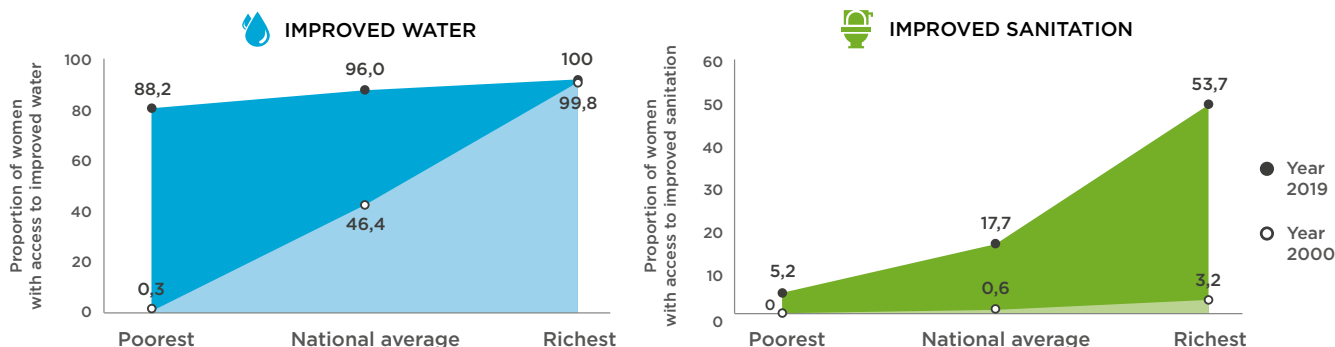
**FIGURE 7**

**TRENDS IN ACCESS TO IMPROVED WATER AND SANITATION (PERCENTAGE)**

**South Africa, 1998-2016**



**Ethiopia, 2000-2019**



Source: The DHS Program STATcompiler funded by USAID. <http://www.statcompiler.com>. 16 March, 2023.



# 5 WATER GAPS LIMIT WELL-BEING, ON MANY FRONTS

When safe drinking water is not available on premises, the burden of water collection and treatment largely falls on women and girls.<sup>112</sup> A study of 24 countries in sub-Saharan Africa estimated that 3.4 million children (62 per cent female, 38 per cent male) and 13.5 million women spend more than 30 minutes a day fetching water.<sup>113</sup> In Malawi, women without safe drinking water in their households spend an average of 54 minutes a day collecting water, while men spend 6 minutes.<sup>114</sup> Similarly, in Iraq, which faces high water stress (79.5 per cent), and where 30 per cent of the rural population has no improved drinking water on premises, women spend up to three hours per day collecting water.<sup>115</sup>

The latest available data from a cross-section of countries confirm that while men and boys are also responsible for water collection, women and girls are, more often than not, the primary water collectors.<sup>116</sup> Rural women in particular shoulder the greatest burden. In Chad, children are the main water collectors in 20 per cent of households, with girls under age 15 nearly five times as likely to shoulder this responsibility as boys of the same age. Water needs increased substantially during the peak of the COVID-19 pandemic (box 5). In Jordan, lengthy handwashing led to a 40 per cent increase in household water consumption, resulting in overpumping and depletion of water resources.

*Water infrastructure and systems are key to reduce women's time burdens.*

## BOX 5

### THE COVID-19 PANDEMIC INCREASED WOMEN'S AND GIRLS' WATER COLLECTION BURDEN AND EXPOSURE TO THE VIRUS

Demand for water increased during the COVID-19 pandemic due to the need for greater hygiene and as family members spent more time at home during lockdowns. Women and girls without safe water on premises had no choice but to collect it from shared sources, heightening their exposure to COVID-19. They also faced limitations in accessing shared sanitation facilities since they typically travel in groups to reduce risks of gender-based violence, a practice that was not possible during the pandemic.

UN Women's rapid assessment surveys in 10 countries in Asia and the Pacific confirmed greater time burdens caused by COVID-19 measures: 27 per cent of women reported spending more time on water and firewood collection, on average. The share was around 40 per cent in Afghanistan, the Maldives, Nepal, Pakistan and the Philippines.

Sources: [SIWI](#), 2021; [News Medical](#), 2022; [UN Women](#), 2020; [Sahoo et al.](#) 2022.

In many countries with limited access to water, greater demand had a considerable impact on poor women, particularly in rural areas where access to adequate water, hygiene and sanitation services remains low.<sup>117</sup>

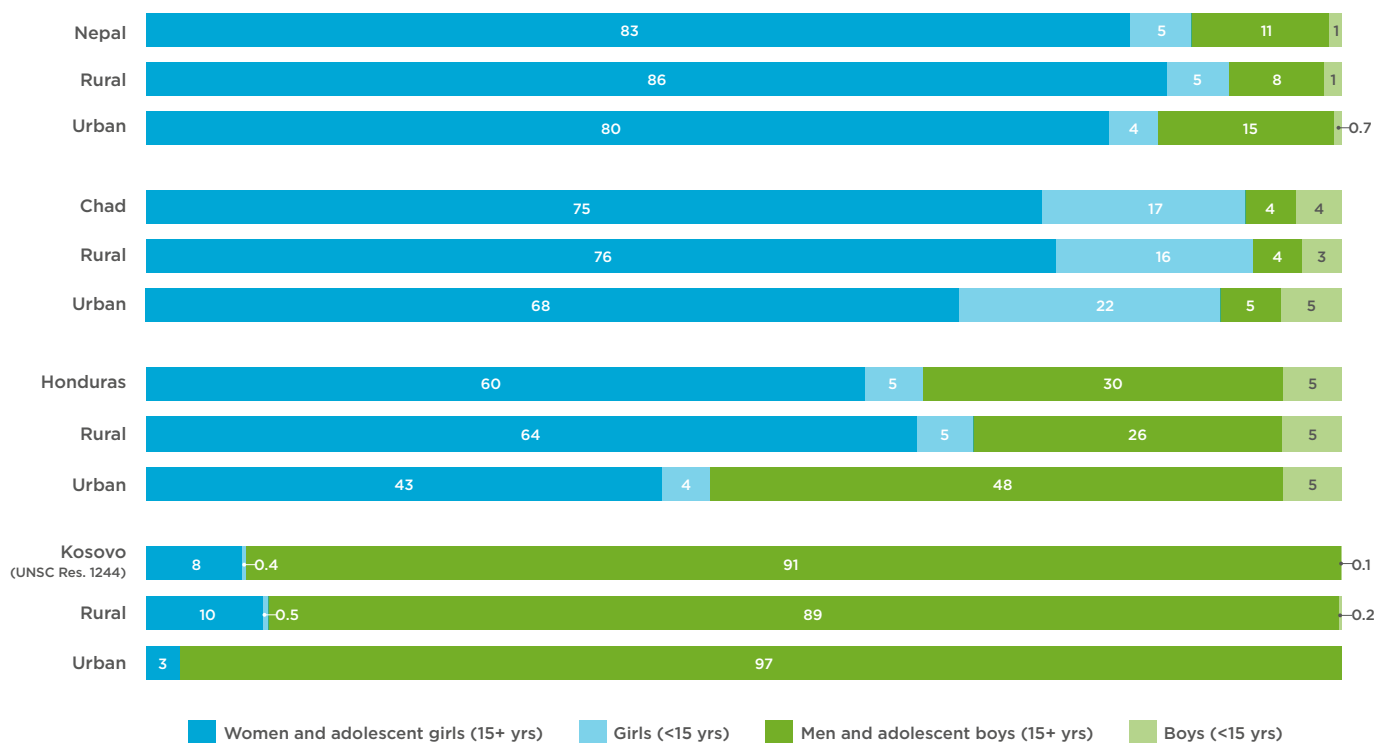
Water collection by women and girls plugs gaps from insufficient and unequal investment in water infrastructure. This work, while unpaid, does not come without a cost. When women's and girls' bodies serve as the infrastructure that supports the supply of water to households, their chance of experiencing adverse physical and mental health outcomes grows. Musculoskeletal

injury, particularly in the back and neck, is one risk. Others include accidental disability and anxiety and stress from inadequate water access.<sup>118</sup> Studies in Lesotho and Nepal found that the physical burden of water carrying is directly related to higher emotional distress and reduced daily functioning.<sup>119</sup>

The time spent by women and girls on collecting water also hampers their ability to learn and, later in life, to equally access paid work. In rural Nepal, where women and girls collect water in more than 90 per cent of households without access to drinking water

**FIGURE 8**

**INDIVIDUALS RESPONSIBLE FOR COLLECTING WATER, BY SEX AND LOCATION, LATEST AVAILABLE DATA, 2019-2022 (PERCENTAGE)**



**Source:** UNICEF MICS surveys, various years, 2019 data or latest available.

**Note:** The analysis only includes households without drinking water on premises. Only one illustrative example per SDG region is included. Some numbers may not add to a 100 per cent due to rounding issues.<sup>120</sup>

on premises (figure 8), a one-hour increase in the time spent to collect water decreases girls' probability of completing primary school by about 17 percentage points.<sup>121</sup> In Malawi, 62.3 per cent of women who must collect water outside their homes reported

that they were not engaged in paid work, compared to 33.6 per cent of women with water available on premises.<sup>122</sup> The full opportunity costs for women and girls who must forgo education and income to collect water for their families are immeasurable.

### Technology is not the only answer

One of the most prevalent narratives in the water sector is that innovations in water, hygiene and sanitation technology can help reduce women's time poverty. In China, for instance, a project to construct concrete water cisterns to store rainwater for use during dry spells increased water access for 3.3 million people, allowing women more time and energy for income generation.<sup>123</sup> But heavy reliance on technology as the solution for entrenched gender inequalities is overly simplistic. In Benin, the construction of boreholes increased household access to water and reduced the water collection workload for women, but their time poverty did not decline and the intervention had no impact on women's empowerment and/or autonomy. Rather than having time for rest or leisure, women went to work in their husbands' fields, a decision made based on their husbands' preference for using the time saved on water collection.<sup>124</sup>

Time-saving technologies are also usually costly to purchase, maintain and repair. These costs are prohibitive for women from poor,

marginalized and excluded groups, exacerbating exclusion and inequality. When water pumps break down, for instance, the mechanics are often men, limiting women's control over the technology and its potential benefits.<sup>125</sup> Women are less likely to learn about new technologies than men, due in part to unequal mobility and time spent outside the house.<sup>126</sup> Once aware of technologies, women often have fewer resources to adopt them, even where that would save time.<sup>127</sup> In Kenya and the United Republic of Tanzania, a study of farmers found that women accounted for just 18 and 6 per cent, respectively, of all buyers of motor water pumps, despite their time-saving potential.<sup>128</sup> Among female buyers, most were purchasing the pumps on behalf of their husbands rather than for their own use. Thus, despite the promise of technology, the evidence largely shows that gains are often oversold and underdelivered. Limited control over household resources and decision-making power, issues often beyond the focus of those in the water sector, remain major barriers to addressing women's water and time poverty.

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***Unequal rights to resources, including land is a major barrier to addressing women's water and time poverty.***

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### Food security and rural livelihoods are at risk

Whether women are engaged in subsistence or market food production, the water crisis puts their livelihoods at risk and ultimately threatens their food security. The impact is particularly acute in agriculture-dependent countries. In Niger, for example, where agriculture accounted for over a third of GDP in 2021, and nearly 7 in 10 employed women worked in the sector (68.9 per cent), weather-related shocks have a large bearing on women's income and

food security.<sup>129</sup> Figure 9, using GDP growth as a proxy, shows the strong correlation between rainfall patterns and fluctuations in broad economic outcomes. For women, unequal rights to land make them more vulnerable during economic shocks and less able to adapt mitigation strategies. In 2019, the share of women among owners or rights-bearers of agricultural land in Niger declined to 14.7 per cent from 29.1 per cent in 2011.<sup>130</sup>

**FIGURE 9**

**PRECIPITATION DIFFERENCE FROM MEAN AND ANNUAL CHANGES IN GDP, NIGER, 2000–2021 (PERCENTAGE CHANGE)**



Sources: University of Reading, 2022; World Bank, 2022.

Globally, roughly a quarter of employed women and men worked in agriculture, forestry and fisheries in 2021 (25.4 per cent of women compared to 27.4 per cent of men).<sup>131</sup> Women accounted for nearly 4 in 10 of those employed in these sectors (39.5 per cent), often working under precarious conditions.<sup>132</sup> Despite their significant contribution to agricultural production, women only own 14 per cent of agricultural land globally.<sup>133</sup> This is of particular relevance since in rural areas, water allocation rights and subsidies for irrigation are often tied to land rights. In Latin America and the Caribbean, for example, land ownership is a precondition for legally participating in irrigation boards, which

explains the low participation of women in these bodies.<sup>134</sup> Available data show that rural women are less likely than rural men to report owning land alone or jointly in 37 out of 47 countries (figure 10). In many countries, women’s access to land is being further undermined by environmental degradation and land grabbing.

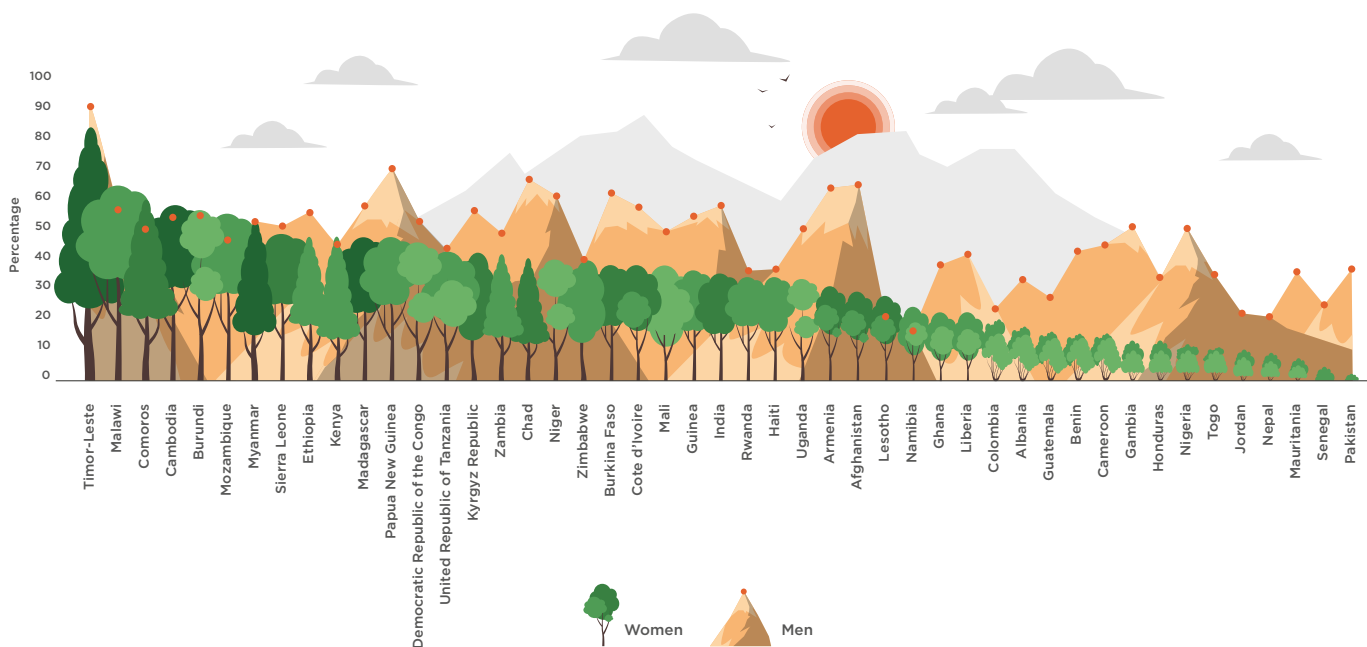
Many female agricultural workers face inequalities in access to agricultural technologies such as biological innovations, improved inputs and mechanization, as well as transport, storage and market infrastructure.<sup>135</sup> And even when available, these may not cater to the specific needs

of women.<sup>136</sup> It has been estimated that if women farmers had the same access to productive resources as men, they could increase yields by 20 to 30 per cent and total agricultural output by 2.5 to 4 per cent, lifting 100 million to 150 million people out of hunger.<sup>137</sup> As the world will need to sustainably produce some 50 per cent more food by 2050 to feed over 9 billion people,<sup>138</sup> strengthening access to land, credit and inputs among women in agricultural communities is key. The promotion of sustainable agriculture and the protection of ecosystems is critical to avoid pushing integrated systems of land, soil and water past their breaking points.<sup>139</sup>

The quantity, timing and reliability of water and other inputs are central to agricultural production and food security. Yet women in agriculture, forestry and fisheries increasingly find themselves challenged to produce enough food due to diminishing water sources and the adverse effects of climate change, which has brought heightened risks of floods and droughts, unseasonal weather and ocean acidification. Countries that are more vulnerable to crises, including those related to water, generally have a larger share of women and girls without regular access to enough safe and nutritious food and a larger share of women and girls exposed to violence and harmful practices (box 6).

**FIGURE 10**

**PROPORTION OF INDIVIDUALS AGED 15–49 WHO SAY THAT THEY OWN LAND ALONE AND/OR JOINTLY BY SEX, RURAL AREAS, 2010 OR LATER (PERCENTAGE)**



**Source:** ICF, various years (2010 or later).

**Note:** The survey year is between 2010 and 2021 depending on the latest available data per country. In some countries, individuals older than age 49 may be included.

**BOX 6**

**DROUGHT, FOOD INSECURITY AND WOMEN'S WELL-BEING IN SOMALIA**

Over the past three years, Somalia, alongside other neighbouring Horn of Africa countries, has experienced an unprecedented drought that is intensifying food insecurity and hunger (figure 11). High food and water prices, conflict, displacement and desert locust infestations have worsened the humanitarian situation.<sup>140</sup> Since January 2021, over 3 million people have been internally displaced and an estimated 3 million livestock have died.<sup>141</sup>

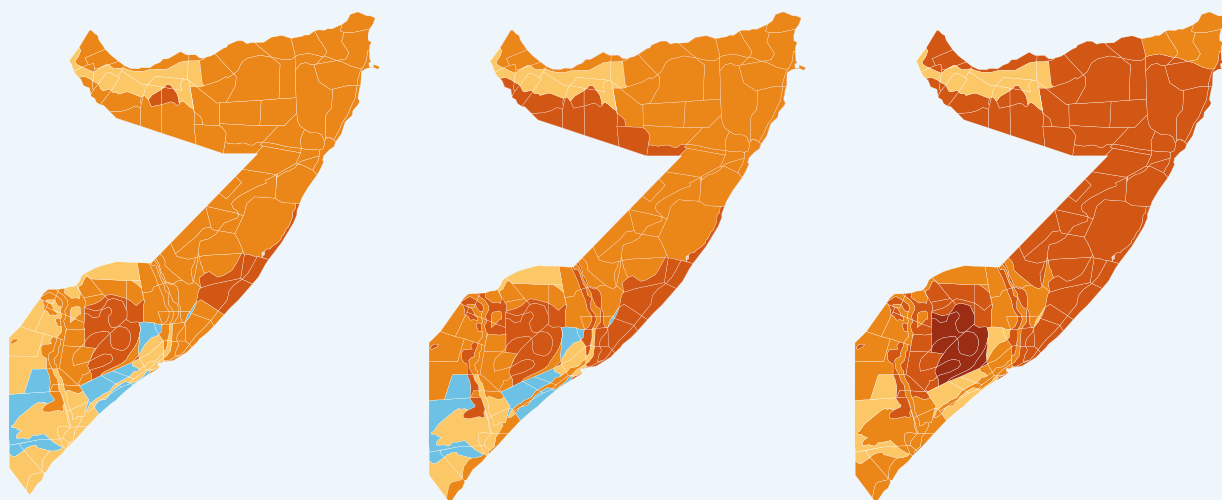
Between October and December 2022, nearly 5.6 million people in Somalia, or one third of its population, faced high levels of acute food insecurity (IPC Phase 3 or above). This includes 214,000 people enduring famine (IPC Phase 5). Between April and June 2023, these figures are projected to increase to 8.3 million (48 per cent of the country's population) and 727,000, respectively, due to an anticipated reduction in funding for humanitarian assistance in crucial sectors.<sup>142</sup>

Women's and girls' rights are further curtailed during droughts, with evidence suggesting a 200 per cent increase in gender-based violence among those displaced, particularly intimate partner violence and rape.<sup>143</sup> The risk of harmful practices such as child marriage and female genital mutilation also grows.<sup>144</sup>

**FIGURE 11**

**CURRENT AND PROJECTED ACUTE FOOD INSECURITY IN SOMALIA, 2022–2023**

Current: October 2022 - December 2022      Projected: January 2023 - March 2023      Projected: April 2023 - June 2023



**IPC Acute Food Insecurity Classification**

- 1: None/minimal
- 2: Stressed
- 3: Crisis
- 4: Emergency
- 5: Catastrophe/famine

**Sources:** IPC Global Partners, 2021, 2022.

**Notes:** See IPC Global Partners, 2022 for further details on the five phases/classification categories.

A scarcity of food staples may also increase time for food production, processing and preparation, to which women already contribute 60 to 70 per cent of their total labour time.<sup>145</sup> The gender gap in land productivity between female and male-managed farms of the same size is 24 per cent. Eliminating gender disparities in farm productivity and the wage gap in agrifood systems would cut global food insecurity by about 2 percentage points, and the number of food-insecure people by 45 million.<sup>146</sup>

Since 2020, the impacts of climate change on the water cycle have converged with the COVID-19 pandemic and the ongoing war in Ukraine to exacerbate food insecurity. Although women and girls prepare most of the world's household meals and grow much of its food, they are more likely to experience moderate or severe food insecurity than men. And the gender gap is growing.<sup>147</sup>

Moderate or severe food insecurity among women and girls aged 15 and above rose from 27.5 per cent in 2019 to 31.9 per cent in 2021.<sup>148</sup> Among men, it increased from 25.7 per cent to 27.6 per cent during the same period, widening the gender gap from 1.8 to 4.3 percentage points.<sup>149</sup> In 2021, food insecurity among women and men remained highest in sub-Saharan Africa (69.7 per cent compared to 68.7 per cent, respectively) while the largest gender gaps were in Latin

America and the Caribbean (45.2 per cent compared to 33.9 per cent respectively) and Central and Southern Asia (44.2 per cent compared to 33.9 per cent respectively).<sup>150</sup>

In many contexts, Indigenous, rural and coastal women have transformative roles in addressing both the water crisis and food insecurity. In the Tangkhul Community in Manipur, India, Indigenous women hold traditional knowledge related to forecasting weather conditions and crop yields.<sup>151</sup> As primary food producers, they lead decisions on crop selection and cultivation modes. In the Narok region of Kenya, Indigenous women use their traditional knowledge of local tree species to provide a sustainable income for their families, support community restoration initiatives and supply the Forestry Department with native trees.<sup>152</sup> In Yap, Federated States of Micronesia, women are planting palms in flooded taro patches to provide material for weaving and homebuilding, and also for protection from coastal flooding. They are developing a nursery of native plants to provide seeds for food and medicine and to help repopulate areas damaged by flooding.<sup>153</sup> Extreme weather shocks, such as droughts, put pressure on food production, availability and accessibility, threatening the stability of longer-term food security and heightening the risk of malnutrition among women and girls. But as these examples show, women using their traditional knowledge can have significant impacts.

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*Indigenous, rural and coastal women have transformative roles in addressing both the water crisis and food insecurity.*

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### Unsafe water leads to poor health – and worse

Globally, mortality and disease due to the lack of safe water disproportionately affects women.<sup>154</sup> Every year, an estimated 660,000 women lose their lives prematurely to unsafe water sources compared to 570,000 men (figure 12).<sup>155</sup> Regional estimates show a mixed distribution of the death burden by sex. Over 9 in 10 female deaths due to lack of safe water occur in Central and Southern Asia (57.6 per cent) and sub-Saharan Africa

(34.3 per cent). In India, for instance, women's role in collecting and transporting water for personal and agricultural uses puts them at a higher risk of infections due to frequent contact with unsanitary water.<sup>156</sup>

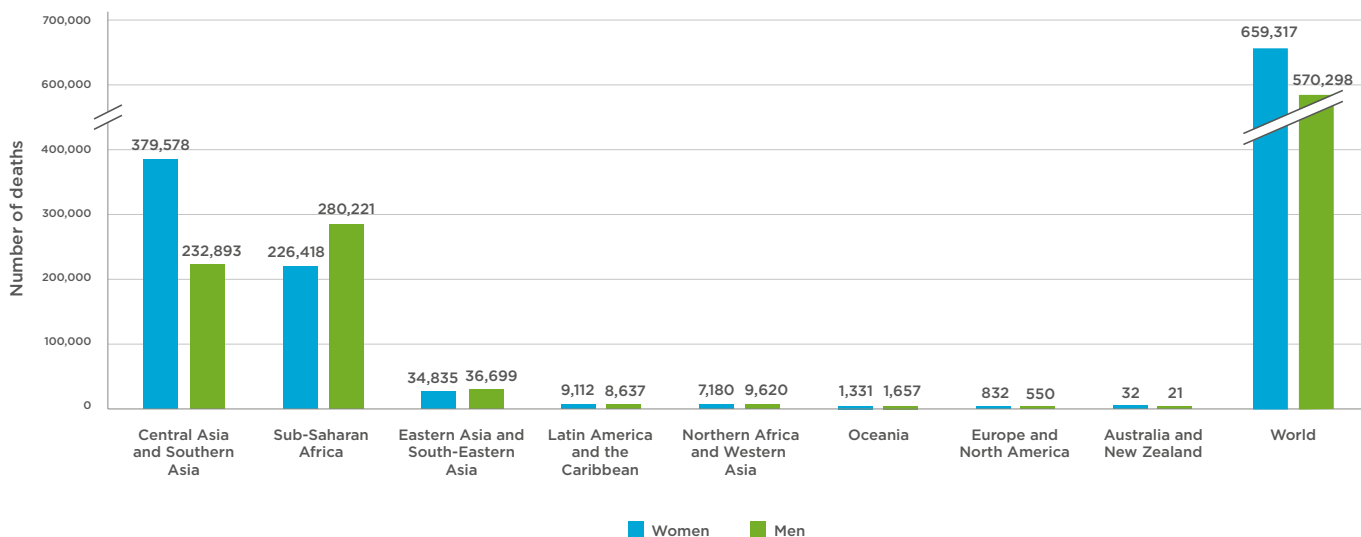
Contaminated water is associated with diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid and polio, all of which can be prevented with safely

managed drinking water services.<sup>157</sup> Moreover, drinking untreated or contaminated water can expose people to waterborne toxins, including heavy metals and chemicals.<sup>158</sup> In Benin, pregnant women in semi-rural lakeside villages who received water from a drill pump had higher levels of

lead in their blood during the first trimester compared to those with access to running water.<sup>159</sup> Ill health caused by a lack of adequate water for drinking, cooking and washing increases the care workload in households, a responsibility that falls primarily on women.

**FIGURE 12**

**DEATHS ASSOCIATED WITH UNSAFE WATER SOURCES AS A RISK FACTOR, BY SEX AND REGION, 2019 (NUMBER)**



**Source:** IHME, 2020.

**Notes:** Includes deaths at all ages from all causes with unsafe water sources associated as a risk factor. The notch on the y-axis shown as “//” indicates that the axis is not drawn to scale after the 400,000 mark.

**Reproductive health depends on safe water and sanitation**

Women and girls have a greater need for adequate water and hygiene services during pregnancy and after giving birth. Every year, 44 million pregnant women are infected with hookworm, which causes maternal anaemia and pre-term births.<sup>160</sup> A hygienic environment, including safe water and sanitation, is paramount for the survival and health of both mother and child during labour and

childbirth. Yet in 2021, 47 per cent of health facilities in the least developed countries lacked basic water services, including three in every four in Niger and Sierra Leone.<sup>161</sup> Only 41 per cent of delivery rooms in the Solomon Islands had toilets in 2020, with only 7 in 10 toilets accessible to women in labour.<sup>162</sup>



A lack of improved water and sanitation facilities at home, school and work also discourages adequate menstrual hygiene. Serious health risks, such as reproductive and urinary tract infections, can result in infertility and birth complications.<sup>163</sup> According to a cross-national study covering 18 low- and middle-income countries, the percentage of women who lack handwashing facilities with soap and water on premises – two critical components of managing menstrual hygiene – is above 80 per cent in Ethiopia, Mozambique, Nigeria and Uganda.<sup>164</sup>

### When water disappears, violence and conflict can erupt

Intensifying competition for scarce water resources is leading to violence, conflict and other negative coping strategies. Women in these settings are at elevated risk of violence within and outside the home.<sup>168</sup> Case studies from East Africa suggest that when women are unable to provide water or do not complete other housework due to time spent fetching water, they are more likely to experience intimate partner violence.<sup>169</sup> Survey data from eight countries in sub-Saharan Africa showed that people from households with internal conflicts over water walked on average 66 minutes to collect water, compared to 30 minutes for households without internal conflict.<sup>170</sup>

Water scarcity also exacerbates intrastate conflicts with destructive impacts on women and girls. Competition for land and natural resources in general has been the primary reason for an estimated 40 per cent of intrastate conflicts over 60 years.<sup>171</sup> Conflict can also reduce water supplies. In Yemen, a strike in January 2022 destroyed a water reservoir that supplied over 130,000 people. Women and girls are primarily responsible for water collection there, with some in rural areas spending two to four hours per day fetching it.<sup>172</sup> The destruction of water infrastructure increases travel times, exposing women to the threat of gender-

based violence for longer periods and reducing time for education, work and leisure. Proper sanitation facilities are also crucial for girls in school. In 2021, 28 per cent of schools globally lacked improved, usable, single-sex sanitation services, and 42 per cent did not have handwashing facilities with water and soap.<sup>165</sup> In the least developed countries, 51 per cent and 68 per cent of schools lacked such services, respectively.<sup>166</sup> For adolescent girls, this may spell trouble in managing their periods safely and with dignity, and lead to school absenteeism. In Nigeria, 23 per cent of girls reported missing school due to unmet menstrual health needs.<sup>167</sup>

based violence for longer periods and reducing time for education, work and leisure.

Disruptions in water supplies can also increase local conflict. Droughts, for instance, amplify competition over water resources. They have forced pastoralists in East Africa to move their cattle into border regions or territories traditionally used by other groups, with some resorting to cattle raiding.<sup>173</sup> Even during wet seasons when there is an abundance of rain, there is a risk of violence due to increased demand for water for agricultural purposes in addition to daily consumption and hygiene.<sup>174</sup>

These examples point to parallels between violence and the destruction of water resources, violence across communities competing for these dwindling but vital resources, and violence perpetuated against women and girls. Understanding these associations is important for understanding how water scarcity impacts women's well-being and why a gender-perspective is essential in policies aimed at reducing hardships caused by water scarcity. The impact on women and girls is not the same as on their male counterparts due to gender-based discrimination, which is pervasive across societies.

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**Water scarcity exacerbates intrastate conflicts with destructive impacts on women and girls.**

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### Intersecting barriers, limited influence

LGBTI (lesbian, gay, bisexual, transgender, intersex) persons, especially transgender and gender non-conforming persons, face specific barriers to water and sanitation such as legal discrimination and elevated risks of violence and abuse when using gender-segregated sanitation and hygiene facilities.<sup>175</sup> For instance, a survey of trans and gender-diverse youth aged 14 to 21 in Australia revealed that 59.5 per cent felt uncomfortable or unsafe accessing public toilets, 38.5 per cent limited how much they ate or drank to avoid having to go to the

toilet, and 6.6 per cent had been harassed or assaulted for using public toilets.<sup>176</sup>

Despite the many gender dimensions of water, water access and water and sanitation infrastructure, water-related policy frameworks do not generally incorporate a gender and intersectional lens. Ensuring that women and other marginalized groups participate in and influence decision-making is central to achieving sustainable and equitable water management.

### Preserving cultural integrity amidst water scarcity

For many of the world's Indigenous peoples, the protection of the Earth's resources is not only foundational to their values and belief systems but also vital for the survival of their culture and way of life. While Western contemporary thought has until recently separated humans from the natural world and applied a human-centric approach to development, Indigenous cultures have for millennia seen the natural world through a reciprocal, mutually beneficial lens, where the Earth and its resources (non-human Nature) are bound together in kinship with humanity. The Earth's bounty, including its water resources, is prized for its intrinsic value as a giver of life. But it is also through this connection with non-human Nature that their communities are sustained, their traditions preserved, and their Traditional Knowledge passed on to the next generation. In Peru, Indigenous communities in the Andean region have experienced water scarcity as a result of glacial retreat and this in turn has threatened the livelihoods and cultural traditions of their

communities.<sup>177</sup> The Aboriginal communities of Australia have similarly faced challenges in preserving their traditions. The depletion of water resources hampers their ability to undertake hunting and gathering activities that have traditionally served to connect their people to the land.<sup>178</sup> Among traditionally pastoral Maasai communities in Kenya and the United Republic of Tanzania, reduced rainfall has forced them to travel longer distances in search of water and disrupted their traditional nomadic way of life. Women in these communities face double hardship as prolonged droughts worsen risks of child marriage. In other cases, the crisis has pushed communities to work better and differently, including by expanding the participation of women in decision-making.<sup>179</sup> In Antigua and Barbuda, the protection of waterways has taken a community-driven approach that recognizes that the protection of the environment must go hand in hand with the protection of people and their traditional ways of life.<sup>180</sup>

*For Indigenous peoples, the protection of the Earth's resources is vital for the survival of their culture and way of life.*

# 6 TRACKING PROGRESS ON SDG 6 FROM A GENDER PERSPECTIVE

The 2030 Agenda for Sustainable Development and the SDGs shifted global efforts to monitor access to safe drinking water and safely managed sanitation. Prior to 2015, indicators 7.8 and 7.9 of the Millennium Development Goals focused only on whether individuals used an improved water and sanitation source. SDG indicators 6.1.1 and 6.2.1 incorporate various additional criteria, such as whether drinking water is accessible on premises or whether the sanitation source is shared with other households (table 1).

Data on access to water and sanitation are collected from censuses, household surveys and other administrative sources yet large gaps remain, especially to capture challenges faced by specific groups, including women and girls with disabilities, in humanitarian and conflict settings, migrants, Indigenous groups, and those facing discrimination based on race or ethnicity. Data are largely absent for LGBTI persons, especially transgender and gender non-conforming persons. Moreover, because many available data emphasize household access, challenges faced by individuals not residing in a household, such as homeless women and girls, are neglected.

Out of 231 indicators for monitoring the 17 Sustainable Development Goals, 51 are gender-specific, meaning they explicitly call for disaggregation by sex and/or refer to gender equality as the underlying objective.<sup>181</sup>

SDG 6 has 11 global indicators, but none are gender-specific, making the goal, from a measurement perspective, gender-blind. The targets themselves are gender-aware, for example, target 6.2, on access to adequate and equitable sanitation and hygiene, calls for “special attention to the needs of women and girls and those in vulnerable situations”. The indicator to monitor this target, however, relies on household-level data without explicitly monitoring the specific needs of women and girls. This is also the case for target 6.1, on universal access to safe drinking water services.

The contextualization of existing SDG 6 data from a gender perspective, and the development of additional gender-relevant indicators for use at the national or regional levels, has been noted as both a challenge and an opportunity for a majority of the SDG 6 global indicators. Capturing the gender-and-water nexus for each SDG 6 global indicator (i.e., capturing the gender-sensitive drivers, pressures, impacts on gender, etc. in relation to the different water and sanitation aspects), can help in reducing gender inequalities and promote equal opportunities and benefits. For example, indicator 6.4.2 on water stress has potential for a meaningful contextualization from a gender perspective when considering access to water and technology, water tenure rights and water permits by sex. Indicator 6.5.1 considers, among other questions, the inclusion of

**Goal 6 has 11 global indicators, but none are gender-specific.**

**Large country-level data gaps remain in monitoring SDG 6 indicators.**

gender in water resource management laws and plans, and there is potential for developing this further. Indicator 6.b.1 on participation has the potential to cast a magnifying glass on the representation of women in water and sanitation, and their contribution to managing decisions and directions. Indicators 6.3.1, 6.3.2 and 6.6.1 have potential for a meaningful contextualization from a gender perspective when analysing impacts (on health and safety, economic prosperity and social well-being) through a gender lens: *How are impacts distributed? Who is able to better adapt and why? Who bears the costs in relation to inadequate treated wastewater treatment (6.3.1), poor water quality (6.3.2), and deteriorating water-related ecosystems (6.6.1)?* Gender-relevant information related to the SDG 6 indicators presents an opportunity to contribute to reducing the gender gap in water resource- and water use-related social, economic and environmental vulnerabilities. The processes of data collection, analysis and use are an opportunity to promote gender equity and equality and the involvement of under-represented groups.

In recent years, water sector stakeholders, including international organizations, United Nations Member States, civil society organizations (CSOs) and the private sector, have rallied to support the gender-sensitive and inclusive production and analysis of water and sanitation data, including for SDG targets 6.1 and 6.2. Most notably, the UN-Water Integrated Monitoring Initiative for SDG 6 (IMI-SDG6) is developing tools and approaches, including to investigate gender-specific and gender-relevant indicators, for the “gender contextualization” of the 11 global SDG 6 indicators. These are currently being tested in pilot countries, to assess their feasibility and added value in supporting national and/or subnational policy needs of Member States and their efforts to internalize gender aspects in their water and sanitation

management.<sup>182</sup> A global roll-out is also planned to build capacity and reinforce gender-relevant, evidence-based policymaking at the national and local levels.

Similarly, the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Water Assessment Programme, with the support of CSOs such as the Women for Water Partnership, developed the Gender Disaggregated Water Data Toolkit. It contains water and gender indicators, a reference methodology, and practical techniques and tools for collecting and analysing disaggregated data in the field, with the aim of addressing the lack of sex-disaggregated water data and providing scientific evidence on gender inequalities in water.<sup>183</sup>

Overall, large country-level data gaps remain in monitoring SDG indicators 6.1.1 and 6.2.1 and their components (table 1). Available data on water and sanitation are frequently not representative at the national, rural and urban levels or only cover limited water and sanitation sources. Data on components measured by censuses and household surveys, such as the use of an improved drinking water source and the accessibility of water on premises, are widely available at the national and subnational levels. In contrast, data on components derived from administrative data, that is, from information collected by government or non-governmental organizations engaged in the delivery or oversight of services, are more limited. This is particularly the case in low- and middle-income countries, where regulatory authorities gather limited data on water quality, especially for rural areas and populations using non-piped supplies. To overcome this gap, countries are collecting nationally representative data on drinking water quality through multi-topic household surveys adapted to use affordable and accurate testing procedures.

TABLE 1

**COUNTRY-LEVEL DATA AVAILABILITY ON ACCESS TO SAFE DRINKING WATER SERVICES AND SAFELY MANAGED SANITATION SERVICES, BY COMPONENT AND LOCATION DISAGGREGATION, 2020 (PERCENTAGE)**

Indicator/ component	Definition	Share of countries with data to produce aggregates:		
		National	Rural	Urban
<b>Access to safely managed drinking water services (SDG indicator 6.1.1)</b>	Drinking water from an improved water source that is accessible on premises, available when needed and free from faecal and priority chemical contamination	59%	33%	42%
<b>Use of an improved drinking water source</b>	Such as piped supplies, boreholes and tubewells, protected dug wells, protected springs, rainwater, water kiosks, and packaged and delivered water.  Unimproved drinking water sources include: unprotected dug wells, unprotected springs, and surface water (rivers, reservoirs, lakes, ponds, streams, canals and irrigation channels), all of which are by Nature of their design and construction unlikely to deliver safe water.	93%	82%	86%
<b>Accessibility on premises</b>	The point of collection is within the dwelling, compound, yard or plot, or water is delivered to the household.	93%	82%	85%
<b>Availability when needed</b>	Households report having “sufficient” water or water is available “most of the time” (i.e., at least 12 hours per day or four days per week).	60%	47%	55%
<b>Quality, i.e., free from faecal and priority chemical contamination</b>	Drinking water meets international standards for microbiological and chemical water quality specified in the World Health Organization’s Guidelines for Drinking Water Quality. For global monitoring, the priority indicator of microbiological contamination is E. coli (or thermotolerant coliforms) and the priority chemical contaminants are arsenic and fluoride.	59%	33%	42%

Indicator/ component	Definition	Share of countries with data to produce aggregates:		
		National	Rural	Urban
<b>Access to safely managed sanitation services (SDG indicator 6.2.1)</b>	Use of improved facilities that are not shared with other households and where excreta are safely disposed of in situ or removed and treated offsite.	60%	39%	49%
<b>Use of an improved sanitation facility</b>	Such as flush and pour flush toilets connected to sewers, septic tanks or pit latrines, and dry sanitation technologies such as dry pit latrines with slabs, ventilated improved pit latrines and composting toilets, which are designed to hygienically separate human excreta from human contact.  Unimproved sanitation facilities include flush or pour flush toilets connected to open drains; pit latrines without slabs; open pits; buckets, pans, "trays" or other unsealed containers; hanging toilets/latrines; defecation in the bush or field or ditch; and defecation into surface water (drainage channels, beaches, rivers, streams or the sea).	91%	81%	84%
<b>Facility shared with other households</b>	Public toilets as well as privately owned sanitation facilities shared by two or more families are classified as shared facilities.	91%	81%	84%
<b>Containment, emptying, transport, treatment, and reuse or final disposal of excreta</b>	Excreta are treated and disposed in situ, stored temporarily and then emptied and transported to treatment off site, or transported through a sewer with wastewater and then treated off site.	65%	53%	53%

**Source:** UN Women calculations using WHO and UNICEF, 2022; [SDG Indicators Metadata Repository](#) and UN-Water on 6.2.1.

**Note:** Percentages are based on assessing coverage for 193 UN Member States.



# 7 CONCLUSION

*“Water is about human rights and gender equality. That’s why water needs to be at the centre of the global political agenda.”*

*UN Secretary-General António Guterres*

## A WAY FORWARD TO ACHIEVE GENDER EQUALITY AND SUSTAINABLE WATER AND SANITATION FOR ALL

Water, if used sustainably, is the most renewable of all the Earth’s resources and the source of life on our planet. Overexploitation and pollution, however, are inevitably leading to scarcity even as human-caused climate change is aggravating the global water crisis. By 2050, 674 million women and girls are expected to live in highly or critically water stressed countries. And nearly 1 billion women and girls have yet to see their right to safe drinking water realized. The poorest and most vulnerable in society face the greatest hardship from the destruction of water ecosystems and the lack of access to safe water and sanitation, all while bearing the brunt of climate change. Women and girls, overly represented among the poor and denied an equal voice and say in water governance, are most at risk.<sup>184</sup>

Our planet and its water resources are at a breaking point. A radically new approach is needed, one embodied by a feminist approach to the water crisis that links social justice with ecological and women’s rights. The 2030 Agenda for Sustainable Development lays the foundation to achieve sustained and inclusive economic growth, social inclusion and environmental protection in a balanced and integrated manner. The rhetoric behind these objectives must now be met with concrete policy and programme

measures – before it is too late. No longer can Nature and natural resources, including water, be viewed as mere commodities and valued solely by what they can offer to humanity. That path inevitably leads to inequality, abuse and ecological annihilation. The world’s water ecosystems have a right to protection and these rights cannot be sacrificed in the name of economic development. Humanity has a responsibility to reciprocate the gifts Nature has bestowed, with gratitude and reverence. The delicate balance between people and Nature will not be achieved without deliberate effort.<sup>185</sup>

A shift is taking place with a growing number of countries across regions adopting ecological rights and legal protections that recognize the right of Nature and its resources to be protected from harm.<sup>186</sup> Indigenous women have been at the forefront of many of these efforts. But unsustainable production and consumption patterns persist. The diverse voices of women needed to galvanize a paradigm shift remain largely absent from decision-making.

While this report provides new data and projections on the gender and water nexus, the main issues are far from new. These issues have been raised by women’s rights and environmental activists countless times

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***Our planet and its water resources are at a breaking point.***

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before. Yet their calls for gender equality, social justice and ecological rights continue to be sidelined. To make matters worse, women are commonly victimized and perceived as defenseless in the face of the global water crisis due to the discrimination they experience from being female. This inaccurate portrayal ignores evidence of their power to drive collective action and transformational change.

**Women, including those furthest behind, are turning their vulnerability into strength.**

It is in fact women's heightened vulnerability that has propelled them to act and push back on inequalities in access to drinking water and the destruction of water resources in their communities. It is women who carry out most water-related tasks in their households, from walking long distances when water becomes scarce, to caring for relatives who fall sick after drinking contaminated water. With key roles in food production and preparation, women also face the greatest uncertainty when natural resources are depleted and the way of life of their communities is lost. Data show that when tensions rise, women are more likely to face intensified violence within and outside the home as well as exposure to various forms of trafficking and slavery.<sup>187</sup>

The case studies and examples throughout this report show how essential women have been in bringing about change and raising awareness of challenges in their communities. Women, including those furthest behind, are turning their vulnerability into strength by rising up, organizing and demanding change, from the grass roots to the global level. And their efforts and those of feminist and women's rights movements are paying off.

In recent years, numerous global and regional initiatives, co-led by Member States, international organizations, CSOs and the private sector, have garnered widespread support and influence in seeking to advance gender equality and women's empowerment

in the water agenda. The United Nations International Decade for Action on Water for Sustainable Development 2018–2028, the United Nations Integrated Monitoring Initiative supporting the gender contextualization of SDG 6 indicators, the UNESCO World Water Assessment Programme's Multistakeholder Call for Action for accelerating progress towards gender equality in the water domain, the Equal Aqua platform by the World Bank and the Women in Water Diplomacy Network are just a few significant examples.

This progress, however, should not mask women's still limited access to decision-making and participation in water governance. Addressing this pervasive challenge requires tackling gender inequality head on to ensure that the voices and perspectives of women are heard and shape the choices being made. Women's organizations and women organizers must be supported to expand their advocacy and social mobilization to reach new heights. This process includes engaging them on an equal footing in the design and implementation of laws, policies and programmes.

Ultimately, feminist and women's rights movements who have been instrumental in bringing successful initiatives to life cannot singlehandedly shoulder all responsibility for driving required economic, social and environmental changes. It is the duty of governments, in partnership with other stakeholders, to ensure that all women and men, girls and boys, and transgender and gender non-conforming persons can enjoy the right to safe drinking water and safely managed sanitation while protecting water ecosystems. The evidence-based, action-oriented recommendations that follow seek to ensure governments and other stakeholders will drive national and local transformative changes for the well-being and prosperity of present and future generations.



# 8. RECOMMENDATIONS

## 1/ **Enact gender-responsive legal frameworks and institutions to protect and conserve water resources**

Water ecosystems and the life that depends on them are in danger. The status quo cannot be sustained. Addressing the multiple and intersecting crises of climate change, pollution and the depletion of water resources requires strong public institutions and legal frameworks that recognize ecosystems and water resources not just as property or a commodity to be exploited but as entities with an equal, independent and inalienable right to exist and flourish. The codification of the “rights of Nature” approach into law is one concrete way in which harmony with Nature – an objective long advocated by local and Indigenous women water activists – is being promoted and enforced. The inclusive participation of women, Indigenous groups, local leaders and community members, however, is needed to ensure this fundamentally distinctive approach lives up to its full potential and brings about needed structural changes in natural resource management. In addition, more research, including interdisciplinary research, is needed to understand the impact of these legal reforms on humans and non-humans alike.

## 2/ **Reverse unequal and unsustainable production and consumption patterns**

Economic growth cannot come at the expense of Nature. A shift in consumption is needed, particularly among those at the top of the consumption curve.<sup>188</sup> A holistic approach to education, public awareness, public policy and global collective action should be employed to support a transition towards individual well-being derived from livelihoods and modes of living that are more equitable and protect the environment instead of destroying it.<sup>189</sup> At the same time, more fair and equal distribution of resources is imperative given the challenges the poorest and most marginalized women and girls continue to face in meeting essential needs. Advances in technology and innovation can help in some cases but often do not reach the poorest women and will not be enough without altering unsustainable patterns of consumption and addressing deep-rooted forms of gender inequality.

## 3/ **Prioritize women and vulnerable populations in climate change adaptation and mitigation strategies**

The increased frequency and intensity of water-related disasters driven by climate change is threatening the lives and livelihoods of millions of women and girls. Many are forced to flee their homes and marry early. Many more are facing malnutrition or starvation, and enduring ill health due to poor access to water, sanitation and health services. Beyond these intense hardships, water scarcity and water disasters are expected to exacerbate conflicts between and across countries, putting women and girls at further risk. Over the last decade, some countries, such as Ecuador, Guatemala and Pakistan, have created climate change gender action plans that identify gaps and enable the co-creation of gender-responsive activities that align with national climate action priorities.<sup>190</sup> More such initiatives, backed by the necessary funding, are needed across countries. Multisectoral plans and efforts to respond to the negative impacts of climate change must also prioritize women and girls most at risk and enhance their capacity to contribute to disaster risk reduction.

## **4/ Tackle gender inequality and other forms of discrimination that exacerbate inequality in accessing safe drinking water and safely managed sanitation services**

Access to safe drinking water is foundational to gender equality and sustainable development. It underpins the right of every woman and girl to live in dignity and fulfil her potential. When women and girls can exercise the right to safe drinking water, sanitation and hygiene, they can exercise their rights to health, education and decent work, with tangible impacts on their households, communities and societies. Yet women and girls bear a disproportionate share of the water-collecting burden, which limits their participation in various spheres of society, including education and the economy. Unimproved water sources account for significant mortality and morbidity among women and girls. Moreover, the failure to ensure equitable access to safe water and sanitation across regions and subregions, class and social status is not unique to developing countries. Wealthy countries, with large in-country inequalities, have also left marginalized communities behind. Advancing progress on SDG 6 requires increased access to safe drinking water and sanitation among underserved and neglected population groups, as well as concerted efforts to address long-standing barriers, such as inadequate investments in underserved communities and gaps in data, that perpetuate unequal access and provisioning.<sup>191</sup>

## **5/ Promote women's equal participation and leadership in water governance and management**

Water projects that include women are six to seven times more effective than those that do not.<sup>192</sup> When women gain equal leadership roles in water governance and management, water becomes more affordable, accessible and efficiently managed in their communities. Yet women are underrepresented in every area of the drive to achieve universal access to safe and clean water. Women and girls play a central role in the provision, management and safeguarding of water in their homes and communities. It is essential that they participate at all levels, including in leadership positions, local water governance and management. Public investments in building and maintaining adequate gender-sensitive water infrastructure must be prioritized. Public organizations and the private sector should enact special measures, such as quotas, to compensate for existing gender inequalities in leadership. To attract future water professionals, water education and literacy must begin in primary schools and efforts made to identify talented university students early to channel them towards careers in water and sanitation. Specific attention should be given to encouraging and reducing the barriers for girls and women to engage in STEM (science, engineering, technology and math) education and fostering entrepreneurship among young professionals. In addition, efforts to include women in decision-making should be assessed and evaluated to ensure they lead to real transformation and inclusivity.

## **6/ Bring the diverse perspectives of women activists in local, national and international decision-making into water governance, including those from marginalized communities**

Across all continents, women activists play key roles in responding to the global water crisis and managing its fallout. More often than not, local community activism comes from women at the bottom of the consumption curve, such as Indigenous women and poor women from coastal communities, who bear the brunt of water-related events. Their local knowledge and insights are instrumental in stopping further threats to the environment, preserving sustainable livelihoods, and driving technological change and innovation. For these women and their communities, the fight for social justice (including gender equality) and environmental justice go hand in hand with the struggle for water rights and water protection.<sup>193</sup> More efforts are needed to integrate their perspectives in the broader public discourse, as well as the design, planning and implementation of programmes and policies. Collaborative efforts with citizens, local leaders and young people on the front lines will drive long-term success and sustainable solutions to the water crisis.

## **7/ Prioritize safe drinking water and safely managed sanitation and hygiene services in communities, schools and health centres**

Many women and girls continue to lack safe drinking water and basic handwashing facilities in schools and health facilities, especially in the least developed countries. When adolescent girls are not able to manage their periods safely and with dignity, they are forced to miss school and are exposed to serious health risks. During pregnancy, labour and childbirth, access to safe drinking water is critical for the survival and health of mothers and children. Prioritizing the availability of safely managed drinking water in households as well as schools and health-care facilities, as institutions with workforces that have a female majority and serve vulnerable populations, will support healthy lives and well-being among all individuals. Schools and health centres should have safe drinking water, basic handwashing facilities with soap and water, and single-sex sanitation services so that all women and girls can manage their water, sanitation and hygiene needs with dignity and privacy.

## **8/ Accelerate partnership and cooperation, including through greater financial support**

The right to safe drinking water is currently out of reach for millions of women and girls in the poorest regions of the world. Based on current projections, by 2030, an estimated 145.1 million women and girls will not have access to improved water sources.<sup>194</sup> Worsening climate change could increase these figures substantially, particularly in countries already ravaged by poverty, war and conflict. Partnership and collaboration among countries and support, including via expanded financing, is essential to address the challenges brought on and exacerbated by the growing water crisis. Transboundary cooperation and commitment to the protection of water ecosystems is also paramount. These efforts should be informed by the perspectives of women and girls who are most affected.

## **9/ Invest in gender data to inform water and sanitation policy**

Despite the prominent position of data in monitoring progress on the 2030 Agenda for Sustainable Development and the SDGs, data on safe and clean drinking water remain limited, particularly in low- and middle-income countries. In 2020, nearly 6 in 10 countries had data on access to safe drinking water services at the national level (59 per cent); a smaller share had such data available for rural (33 per cent) and urban residents (42 per cent).<sup>195</sup> While data are abundant on types of drinking water sources used by individuals and accessibility on premises, significant data gaps remain on water availability and quality. In addition, the household-level focus of measurement means that challenges faced by women and girls who are furthest behind, beyond those who are poorest and living in rural areas, are often overlooked. This applies to women and girls in humanitarian and conflict settings, migrant women, women without adequate housing and LGBTI persons, among others.

Strengthened efforts to monitor aspects of WASH and sustainable management of water resources and ecosystems must accompany the generation of more disaggregated data on access, opportunities and participation for groups and subgroups traditionally excluded from these services, processes and decisions. More efforts are needed to understand the effectiveness and reach of programmes aimed at improving access to and protecting water resources and water-related ecosystems. Are programmes having the intended effect and reaching the most vulnerable? Are they informed by the needs and perspectives of affected communities, in particular women and girls? What impacts are they having on pre-existing social inequalities? And what is the impact on ecosystems? This knowledge should be shared broadly and used to improve policy. Among these priorities is the collection and use of gender-disaggregated data on participation in decision-making in water and sanitation utilities, water management bodies and governance institutions.

## 9. ENDNOTES

1. The Special Rapporteur on the human rights to safe drinking water and sanitation has raised similar concerns about the inclusion of water in futures market trading, stating: "...the recent entry of water as a commodity derivative on Wall Street futures markets aggravates the situation by subjecting water to the forces of financial speculation and to risks of speculative bubbles, not taking into account the demands of human rights and the sustainability of ecosystems". (A/76/159).
2. Kimmerer, 2013.
3. Shiva, 2016.
4. See Kimmerer, 2013 on differences between Native American people and modern American society's conceptualization of Nature and people's relationship with it. The focus of Potawatomi culture being on gratitude and reciprocity for Nature's gifts.
5. [UN, 2022](#).
6. Salzman, 2017.
7. [UNESCO and UN-Water, 2019](#).
8. Ibid.
9. [UN-Water, 2021a](#).
10. [Dennis and Bell, 2020](#).
11. Kauffman, 2022.
12. Target 6.5 tracks the implementation of integrated water resources management and calls for coordination and cooperation to balance competing water demands from across society and the economy, without compromising the sustainability of vital ecosystems (UN-Water, 2021a).
13. [UN-Water, 2021b](#). For more on the indigenous perspective viz-a-viz Nature, natural resources and water see La Duke, 2020 and Kimmerer, 2013.
14. Because there is no international standard for collecting data on gender identity, the discrimination experienced by those who identify outside the gender binary is often invisible in available data; see [UN Women, 2018](#). As discussed in the data section of this report, it is important to capture inequalities faced by diverse gender identities. Such analysis is beyond the scope of this paper, however, due to severe data gaps. Solidifying standards for measuring gender identity is an urgent and ongoing effort crucial to the proper monitoring of the SDGs.
15. See [Ray, 2007](#), who concludes that gaps in sex-disaggregated data is one of the key reasons why gender and water issues are not sufficiently prioritized in policy discourse. A 2022 update (Ray, I. & Crider, Y. S. 2022) confirms the persistent challenge of insufficient gender data.
16. UNGA, 2010.
17. [UNGA, 2015](#).
18. Ibid.
19. In recent years, the global community has also recognized the need to focus on water availability in schools and health-care facilities and not households alone. Moreover, in addition to drinking water, there is greater recognition of water needs for others uses, including cooking, sanitation and basic hygiene. See [General Comment No. 15: the Right of Water \(Arts. 11 and 12 of the Covenant\)](#).
20. [UN General Assembly resolution 70/1, 2015](#).
21. [UN Women, 2018](#).
22. UN Committee on Economic, Social and Cultural Rights 2002.
23. For a broader summary of international policy frameworks and treaties on gender and water, see [UNESCO, 2021](#).
24. [Azcona et al., 2022](#).
25. [UNESCO, 2021](#).
26. UN-Water and WHO, 2022.
27. USAID, 2020; UN Women, 2019.
28. Murchison et al., 2019.
29. [Cordoba & Grabinsky, 2020](#).
30. UN Women calculations from World Gallup Poll Waves 3 and 4. Note: Based on a sample of 21,327 responses from individuals in 22 countries: Austria, Belgium, Denmark, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Türkiye and the United Kingdom. The differences in means by income groups are significant at the 1 per cent significance level.
31. [UNESCO, 2021](#).
32. UN-Water, [2021b](#).
33. WHO, [2022a](#).
34. WHO and UNICEF, [2022a](#).
35. UN Women calculations from World Gallup Poll Waves 8 to 17, covering the years from 2007 to 2015. Note: Based on a sample of 1,335,431 responses from individuals across 162 countries and areas. The differences in means by income groups are significant at the 1 per cent level. The income quintiles are based on household income.
36. See for example United Nations General Assembly Resolution A/RES/71/219: "Harmony with Nature" (2016). Note: "Nature" is capitalized in these reports to emphasize an Earth-centred worldview and challenge the idea that Nature is human property.
37. United Nations General Assembly Resolution, 2020: A/RES/73/235.

38. Out of 27 documents reviewed which include 12 reports, one supplement to a report, and 14 resolutions, only 6 (22%) referred to women and/or women's organizations. The 2019 edition of the Secretary-General report on Harmony with Nature (A/74/236), for example, makes a passing reference to the collective Women of the Desert in Chile but women and women's groups are not featured prominently in the reports.
39. [UN-Water, n.d.](#)
40. Authors' calculations, see figure 2. The 30 countries are Algeria, Armenia, Azerbaijan, Bahrain, Barbados, Egypt, Eswatini, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Pakistan, Qatar, Republic of Korea, Saudi Arabia, Singapore, Sri Lanka, Syrian Arab Republic, Tunisia, Turkmenistan, United Arab Emirates, Uzbekistan and Yemen.
41. [Azcona et al., 2022.](#)
42. [Azcona et al., 2020.](#)
43. Lizarralde, 2021.
44. [UNDP, n.d.](#)
45. [UNDRR, 2021.](#)
46. UNESCO and UN-Water, [2023.](#)
47. Coulson et al., [2022.](#) [Oppenheimer et al., 2019](#) cited in [Nicholls et al., 2021.](#)
48. Brunner et al., [2021.](#) Li et al., [2022.](#) [Zhang et al., 2019.](#)
49. Brunner et al., [2021.](#)
50. Authors' calculations. Estimates are based on aggregate country-level assessments of physical exposure to floods. Flood risk however varies significantly within countries. The true number of women exposed to floods therefore may be lower than estimates shown here.
51. [Fischer and Carlowicz, n.d.](#)
52. Van Daalen et al., [2022.](#)
53. [UN Women, 2022;](#) [UNDP 2022.](#)
54. [Prabhu, 2022.](#)
55. Cunneen, [2022.](#)
56. Leoni, B., [2014.](#)
57. Ferris and Solis, [2013.](#)
58. Authors' calculations. Estimates are based on country-level assessments of physical exposure to tsunamis. Tsunami risk varies significantly within countries, therefore the number of women exposed to tsunamis may be lower than estimates shown here.
59. [UNESCO, 2004.](#)
60. [Rahiem et al., 2021.](#)
61. Ibid.
62. Ibid.
63. Emanuel, [2020](#) and Bhatia et al., [2022.](#)
64. Bhatia et al., [2022.](#)
65. [UN News, 2022.](#)
66. [Martyr-Koller, R. et al 2021.](#)
67. Authors' calculations. Estimates are based on country-level assessments of physical exposure to tropical cyclones. Tropical cyclone risk varies significantly within countries, therefore the number of women exposed to tropical cyclones may be lower than estimates shown here.
68. [UNSDG, 2022.](#)
69. UNESCO and UN-Water 2023.
70. [Hallegatte et al., 2016.](#)
71. Authors' calculations. Estimates are based on country-level assessments of physical exposure to droughts. Drought risk varies significantly within countries; therefore, the number of women exposed to droughts may be lower than estimates shown here. Medium-variant population projections are used.
72. [OCHA, 2022.](#)
73. [Davies, 2022.](#)
74. [OCHA, 2022.](#)
75. United Nations Global SDG Indicator Database, SDG indicator 6.4.2.
76. Ibid.
77. Authors' calculations, see figure 2.
78. Authors' calculations using the United Nations Global SDG Indicator Database, SDG indicator 6.4.2. Based on a sample of 157 countries and areas for the year 2023.
79. Huang et al., 2021.
80. Note: Changes in water availability resulting from climate variability can be positive or negative.
81. Huang et al., 2021.
82. Hofste et al., 2019.
83. UN Women calculations using [UNDESA Population Division, 2022.](#)
84. [FAO AQUASTAT, 2018.](#)
85. UNESCO and UN-Water 2023.
86. [World Bank, 2021;](#) [Buckingham and Kulcur, 2009.](#)
87. [UN-Water, 2017.](#) Note, however, that international databases on this issue remain sparse with an inadequate number of countries reporting on the status of wastewater flows.
88. UNESCO, 2021.
89. UNEP-DHI, 2022. UN Women calculations from [IWRM Data Portal for tracking SDG 6.5.1.](#) Database on 2020 SDG 6.5.1 global assessment results.
90. UNCTAD, 2023.
91. World Bank, [2019.](#)
92. IUCN, [2018.](#)
93. UNECE, [2021.](#)
94. [IUCN, 2018;](#) [Climate Diplomacy, 2021;](#) [Ergas and York, 2012;](#) [McKinney and Fulkerson, 2015.](#)

95. Authors' calculations, see infographic.
96. Author's calculations, see figure 4.
97. Ibid.
98. WHO and UNICEF, 2023. It is assumed that the share of women's access to safe drinking water and managed sanitation is equal to that of the general population. Infographic design inspired by Raconteur, 2018.
99. [Ray, 2022](#).
100. Authors' calculations, see infographic. The Europe and Northern America regional aggregate is reflective of the diverse spread in average access to safely managed sanitation across countries, ranging from 61, 72 and 79 per cent of the population in the case of the Russian Federation, Ukraine, and Italy, respectively, to over 90 per cent in the case of the France, Spain, the United States and the United Kingdom.
101. [Guzman et al., 2023](#).
102. [Macura et al., 2023](#).
103. WHO and UNICEF. 2022a. [JMP Data Portal](#). Accessed 20 December 2022. Data for Palau are for the year 2020.
104. [IHME n.d.](#)
105. Azcona & Bhatt, 2021.
106. UN Women calculations from DHS surveys for Benin 2017 and Madagascar 2021. The DHS Program is funded by United States Agency for International Development (USAID). Based on data collected for women aged 15 to 49.
107. UN Women calculations based on DHS and MICS surveys for Colombia, Guatemala and Mexico, 2015-. Based on data collected for women aged 15 to 49.
108. UN Women calculations from the 2015 DHS Survey for Guatemala. Based on data collected for women aged 15 to 49.
109. [ICF International South Africa](#) (1998-2016).
110. UN Women calculations, using trend data from DHS surveys for Ethiopia (2000-2019). Based on data collected for women aged 15 to 49.
111. [ICF International various surveys](#) (1997-2021). The DHS Program STATcompiler. The surveys for the first point in time range from 1997 to 2003 (early 2000s vintage) compared to a second point in ranging from 2015 to 2021 (late 2000s vintage).
112. [UN Women, 2018](#).
113. [Graham et al., 2016 cited in Dickin and Caretta 2022](#).
114. [Azcona et al., 2020](#).
115. [Azcona et al., 2022](#).
116. [Graham et al., 2016](#).
117. [UNESCWA et al., 2023](#).
118. Geere et al., 2018.
119. [Tomberge et al., 2021](#) and [Workman and Ureksoy, 2017](#).
120. The choice of country per SDG region is based on the following criteria: a minimum sample of 1,000 households without access to drinking water on premises, and less than 30 per cent of responses are missing. No countries in the MICS database met the above criteria for Eastern and South-Eastern Asia, Northern Africa and Western Asia and Oceania (excluding Australia and New Zealand). Australia and New Zealand are not available in the MICS database. In Kosovo, less than 10 per cent of households collect water.
121. Dhital et al., 2022.
122. UN Women calculations from the DHS survey for Malawi 2015-16. Based on data collected for women aged 15 to 49.
123. UNCTAD, 2023. Time poverty is broadly understood as the lack of time needed for individuals to meet their basic requirements for rest and leisure, also known as discretionary time, owing to an excess of paid work and unpaid care and domestic work (Vickery 1977).
124. [Ivens, 2008 cited in Dickin and Caretta 2022](#).
125. Dickin & Caretta, 2022.
126. Theis et al., 2018.
127. Ibid.
128. Njuki et al., [2014](#). The study was conducted between 2005 and 2013.
129. World Bank, 2022a; ILO, 2023.
130. [UNSD n.d.](#)
131. UN Women calculations using [ILO, 2023](#).
132. Ibid.
133. [UN Women, 2020a](#).
134. Saravia Matus, et al., 2022.
135. [UNCTAD, 2020](#).
136. Ibid.
137. [WFP, 2021](#).
138. [UN-Water. n.d. a](#).
139. Ibid.
140. [IPC, 2022](#).
141. [WEF, 2022](#).
142. [IPC, 2022](#).
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- i. Estimates are based on country-level assessments of physical exposure to floods. Flood risk varies significantly within countries, therefore the number of women exposed to them may be lower than the estimates shown here. Ratios in brackets next to the name of the region show the number of countries with high or very high exposure to floods out of the total number of countries in the region. Medium-variant population projections are used.
- ii. Estimates are based on country-level assessments of physical exposure to tsunamis. Tsunami risk varies significantly within countries, therefore, the number of women exposed to them may be lower than the estimates shown here. Ratios in brackets next to the name of the region show the number of countries with high or very high exposure to tsunamis out of the total number of countries in the region. Medium-variant population projections are used.
- iii. Estimates are based on country-level assessments of physical exposure to tropical cyclones. Tropical cyclone risk varies significantly within countries, therefore, the number of women exposed to them may be lower than the estimates shown here. Ratios in brackets next to the name of the region show the number of countries with high or very high exposure to tropical cyclones out of the total number of countries in the region. Medium-variant population projections are used. Northern Africa and Western Asia region is not included above as there are no cyclone affected countries in the region.
- iv. Estimates are based on country-level assessments of physical exposure to droughts. Drought risk varies significantly within countries, therefore the number of women exposed to them may be lower than the estimates shown here. Ratios in brackets next to the name of the region show the number of countries with high or very high exposure to droughts out of the total number of countries in the region. Medium-variant population projections are used.



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This Spotlight Paper emphasizes the need for a feminist approach to addressing the global water crisis, one that recognizes the important role women play in their communities as the main collectors, protectors and managers of water. The latest data and projections on the gender and water nexus presented in the paper reveal that the human rights to water and to sanitation are far from realized for many women and girls globally. The report calls for women's equal representation in leadership and decision-making, and draws a clear connection between social justice, ecological rights and women's rights. The case studies and examples throughout the paper reveal the essential role women have played in the global movement to transform Indigenous values and local ecological knowledge into enforceable ecological rights. Pressing data gaps and measurement challenges along with evidence-based, action-oriented policy recommendations are also captured and discussed in the paper.

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