

# An Updated Look at Population and the Environment:

## Water Resources



The global population growth rate peaked in the 1960s, sparking concerns about the challenges posed by such growth for natural resources and the environment. While the rate of growth has slowed, the world's population has since more than doubled in size. World population is projected to grow through most of the 21st century, though with significant diversity in population trends: The populations of some countries today are young on average and growing rapidly, those of others are older and growing more slowly, and those of others still have peaked and are now slowly decreasing in size.

Shifts in patterns of production, consumption, and technological change continue to mediate the impact of human activity on the planet. Does population growth matter? And if so, how? This series looks at how today's population trends interact with environmental and natural resource challenges, including often overlooked insights on how these trends relate to planetary boundaries, gender equity, and *reproductive agency*—the capacity of individuals and couples to make their own decisions about conceiving and bearing children.

### HOW DO POPULATION TRENDS INFLUENCE THE SUSTAINABLE USE OF WATER?

Slower population growth can help alleviate demand on water and restore global water solvency.

In 2026, the United Nations (UN) University published a report signaling that we entered the era of global water bankruptcy, defined by *insolvency* (demand exceeds availability) and *irreversibility* (permanent damage to water flows).<sup>1</sup>

**Growth drives us into water bankruptcy: Population growth, urbanization, consumption, and rising living standards drive the pressure on our water assets.**

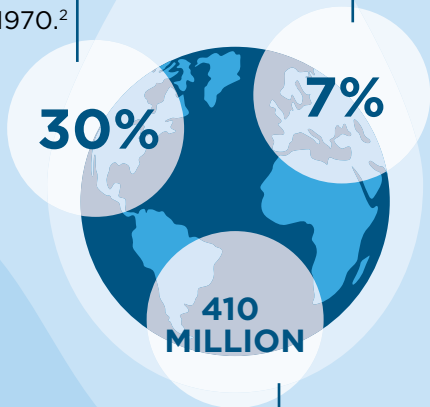
#### 6X INCREASE

Growth in global freshwater withdrawals since 1900.<sup>5</sup>



#### The Supply Gap: A Shrinking Account

Global glacier mass lost since 1970.<sup>2</sup>



Decrease in per capita freshwater availability between 2015 and 2022.<sup>4</sup>

Size, in hectares, of natural wetlands lost over the past 50 years (equivalent to the size of the European Union).<sup>3</sup>

**72%** Total withdrawals used for agriculture to support a growing global population and economy.<sup>6</sup>

#### Water stress disproportionately impacts vulnerable populations.

**3/4** Share of the global population living in *water-insecure* countries, defined as countries that lack reliable access to adequate quantities of acceptable quality water, and safe and sustainable water management capacity.<sup>7</sup>



#### 4 BILLION

The number of people facing severe water scarcity at least one month per year.<sup>8</sup>



#### 2.2 BILLION

The number of people lacking safely managed drinking water.<sup>9</sup>



## WATER RESOURCES, GENDER EQUITY, AND REPRODUCTIVE AGENCY ARE LINKED

The burden of water stress and bankruptcy is unevenly distributed across population groups and falls disproportionately on women and girls. In approximately 80% of households experiencing water shortages, responsibility for water collection rests with them, often requiring long-distance travel and transporting heavy loads, at times exposing them to heightened risks of violence. These demands can disrupt girls' education and constrain women's participation in income-generating activities.<sup>10</sup> Water carrying over long distances is also associated with increased risks to psychosocial wellbeing, including in relation to reproductive health.<sup>11</sup>

Evidence suggests that social inclusion, particularly involving women and marginalized groups, influences all key dimensions of water security, and that when gender disparities persist, water systems fail to serve those most in need.<sup>12</sup> Addressing water stress therefore requires mainstreaming gender perspectives and policies into water resources management to ensure equitable access (*gender mainstreaming* is the process of assessing the implications for women and men of any planned action, including legislation, policies, or programs, in all areas and at all levels).<sup>13</sup>

When we look at people's resilience in the face of water shortage with gender equity and demographic change in mind we see the foundational importance of advancing *reproductive agency*. **Ensuring access to quality and comprehensive family planning services is foundational to gender equity and shapes long-term population trajectories that influence aggregate water demand.** Investing in voluntary family planning services can slow population growth over time, relieving pressure on water systems. It can also help reduce emissions of climate-warming greenhouse gases and contribute generally to the transformative change required to address climate change and environmental degradation.<sup>14</sup> Such measures align with the UN's Sustainable Development Goals (SDGs), which emphasize the importance of reproductive health and education in achieving sustainable development. It was estimated, for example, that if the SDG targets for contraceptive use and education are met, global population size would decline from today's 8.2 billion to 6.29 billion in 2100.<sup>15</sup>

## FROM THE FIELD: GENDER AT THE HEART OF DEMOGRAPHIC AND RESOURCE PRESSURES IN NIGER

Niger has one of the world's highest fertility rates and one of the world's lowest rankings for gender equality indicators. It has high levels of child marriage and maternal mortality, and low levels of contraceptive prevalence and female literacy. Between 1970 and 2022, Niger's population more than quintupled, growing from 5 million to 25 million. Over the same period, increasing demand drove a fivefold decline in renewable water resources per capita, with severe consequences for people whose livelihoods remain heavily dependent on ecosystem-based activities, highlighting how demographic pressure, water stress, and gender inequality interact.<sup>16</sup> Integrated approaches that link family planning to more resilient societies provide unique opportunities in such contexts.

**LEARN MORE**



Handwashing at a rural water pump. Photo by Benedict Buston on Pexels.



## FROM THE FIELD: POLITICIZING WATER PROTECTION AGAINST REPRODUCTIVE AGENCY



Wastewater treatment plants. Photo by Patrick Federi on Unsplash.

In the United States, recent efforts to use environmental and water protection laws to target medication abortion show how water narratives can be distorted in ways that undermine both public health and sound environmental governance. In 2025, policymakers in seven states introduced nine bills invoking water pollution claims to justify new restrictions on abortion, despite no evidence of a meaningful threat to water supplies.<sup>17</sup> Some proposals would have required repeated testing of wastewater plants or public water systems for traces of abortion medication, diverting regulatory attention and administrative capacity away from the real drivers of water pollution and weakening environmental protection efforts. These proposals also risk creating new barriers to abortion care while drawing attention away from evidence-based

environmental protection. Medication abortion is a key component of abortion access in the United States, accounting for the majority of clinician-provided abortions in states without total bans. It plays a particularly important role for marginalized populations and for people living in rural or medically underserved areas who already face longstanding barriers to reproductive health services. Misusing environmental policy to restrict reproductive health care risks undermining both environmental governance and public health, while diverting attention from the structural drivers of water pollution. This issue is ongoing, as similar proposals are likely to resurface in future legislative sessions.

**LEARN MORE**



## UNDERSTANDING POPULATION TRENDS IS VITAL TO UNDERSTANDING OUR WORLD AND PLANNING FOR THE FUTURE

The future path of population change will powerfully influence the future of the sustainable use of fresh water. That path is not fixed—it responds to policies, programs, and investments.

A population lens invites deeper inquiry into drivers of population growth that are linked to inequity, including barriers that women and girls experience that limit their rights and opportunities.

Integrating gender considerations, including by advancing access to voluntary family planning services and reproductive health and rights into water management, is foundational for gender equity and water security.

In many ways, embracing the shift toward lower fertility—a shift based entirely on the reproductive choices of individuals and couples—presents opportunities for both people and the planet.

## References

- 1 Kaveh Madani, 2026. [Global Water Bankruptcy: Living Beyond Our Hydrological Means in the Post-Crisis Era](#) (Richmond Hill, Ontario: United Nations University Institute for Water, Environment, and Health (UNU-INWEH), 2026).
- 2 Madani, *Global Water Bankruptcy*.
- 3 Madani, *Global Water Bankruptcy*.
- 4 Maria Hernández Lagana and Patricia Mejias Moreno, [AQUASTAT Water Data Snapshot 2025](#) (Rome: Food and Agricultural Organization (FAO), 2025).
- 5 Hannah Ritchie and Max Roser, "[Water Use and Stress](#)," Our World in Data, February 2024.
- 6 FAO and UN-Water, [Progress on the Level of Water Stress: Mid-Term Status of SDG Indicator 6.4.2 and Acceleration Needs, With Special Focus on Food Security](#) (Rome: FAO, 2024).
- 7 Charlotte MacAlister et al., [Global Water Security 2023 Assessment](#) (Hamilton, Canada: UNU-INWEH, 2023).
- 8 Madani, *Global Water Bankruptcy*.
- 9 Madani, *Global Water Bankruptcy*.
- 10 UN Women, "[SDG 6: Ensure Availability and Sustainable Management of Water and Sanitation for All](#)."
- 11 Vica Marie Jelena Tomberge et al., "[The Physical Burden of Water Carrying and Women's Psychosocial Well-Being: Evidence From Rural Nepal](#)," *International Journal of Environmental Research and Public Health* 18, no. 15 (2021): 7908.
- 12 Vivek Raman et al., [Asian Water Development Outlook 2025: The Index of Water Security for Asian and the Pacific](#) (Manila: Asian Development Bank, 2025).
- 13 UN Women, "[Gender Mainstreaming](#)."
- 14 John Bongaarts and Brian C. O'Neill, "[Global Warming Policy: Is Population Left Out in the Cold?](#)" *Science* 361, no. 6403 (2018): 650-652; and William J. Ripple et al., "[World Scientists' Warning of a Climate Emergency](#)," *BioScience* 70, no. 1 (2020): 8-100.
- 15 Stein Emil Vollset et al., "[Fertility, Mortality, Migration, and Population Scenarios for 195 Countries and Territories From 2017 to 2100: A Forecasting Analysis for the Global Burden of Disease Study](#)," *Lancet* 396, no. 10258 (2020): 1285-1306.
- 16 FAO, "[Renewable Water Availability per Person Plunges 7 Percent in a Decade as Global Scarcity Deepens, FAO Data Shows](#)," Dec. 12, 2025.
- 17 Candace Gibson and Anna Bernstein, "[Weaponizing Water: How the Campaign Against Medication Abortion Co-opts Environmental Policy](#)," *Guttmacher*, December 2025.

## Contact

**The Population Institute**  
info@populationinstitute.org



©2026 The Population Institute. All rights reserved.

**TO LEARN MORE, JOIN OUR NEWSLETTER**  
[populationinstitute.org](https://www.populationinstitute.org)

