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

2024

United Nations | UN WATER

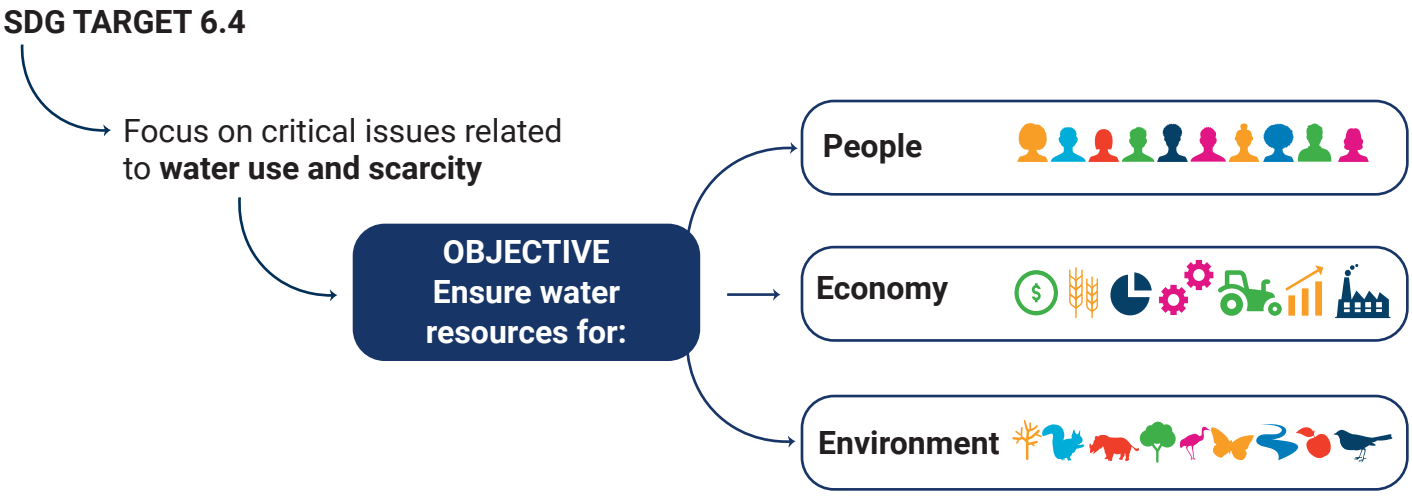
Introduction

Indicator 6.4.2 has been defined as the ratio between total freshwater withdrawn (TFWW) by all major sectors and total renewable freshwater resources (TRWR), after considering environmental flow requirements (EFR). This indicator provides an estimate of pressure by all sectors on the country's renewable freshwater resources, besides the definition of the formula:

$$\text{WATER STRESS}\ (\%) = \frac{\text{TFWW}}{\text{TRWR-EFR}} * 100$$

SDG Indicators 6.4.1 and 6.4.2, were specifically designed to monitor progress towards achieving **SDG Target 6.4,** which aims to:

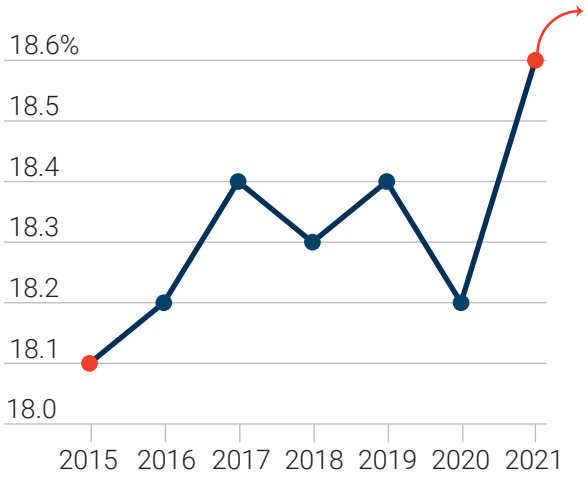
> "By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity."



The Food and Agriculture Organization (FAO) is the custodian agency for SDG Indicators 6.4.1 and 6.4.2, responsible of gathering data and computing the indicator in collaboration with national focal points to ensure accuracy and reliability of the indicators.

Key Messages

GLOBAL LEVEL OF WATER STRESS



SDG indicator 6.4.2 reached a level of 18.6 % in 2021. The indicator **increased by 2.7% since 2015.** This means that in 2021, we are using 93 billion cubic meters more water compared to 2015.

The global stress level entails substantial regional variations.

Latin America and the Caribbean, Northern America and Europe, Oceania and Sub-Saharan Africa report no water stress in the period considered.

Southern and Central Asia, as well as Northern Africa and Western Asia report a high level of water stress.

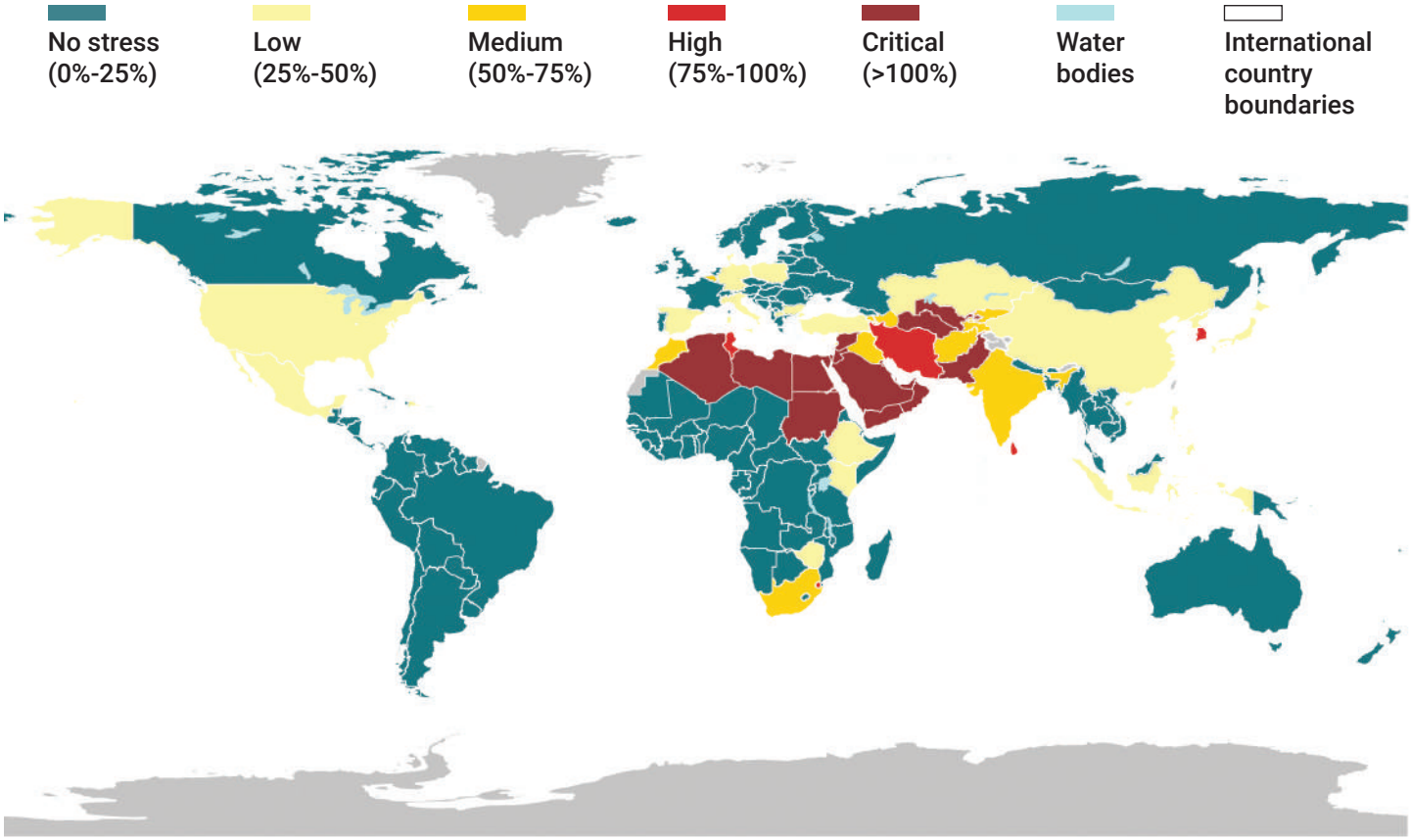
The agriculture sector is the main user of water resources, accounting for 72% of the total freshwater withdrawals.

AGRICULTURE SECTOR
72%

INDUSTRIAL SECTOR
15%

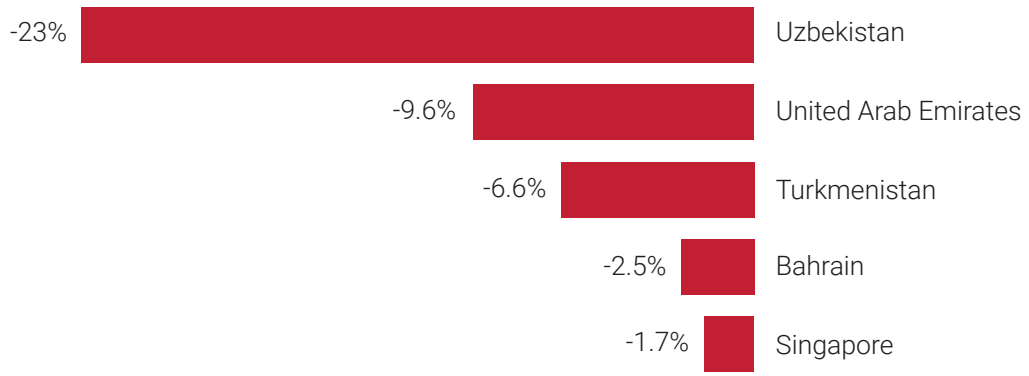
SERVICE SECTOR
13%

NATIONAL WATER STRESS LEVELS IN 2021[1]



In 2021, 13% of the countries in the world were experiencing critical or **high water stress levels** mainly concentrated in Northern Africa and Western Asia.

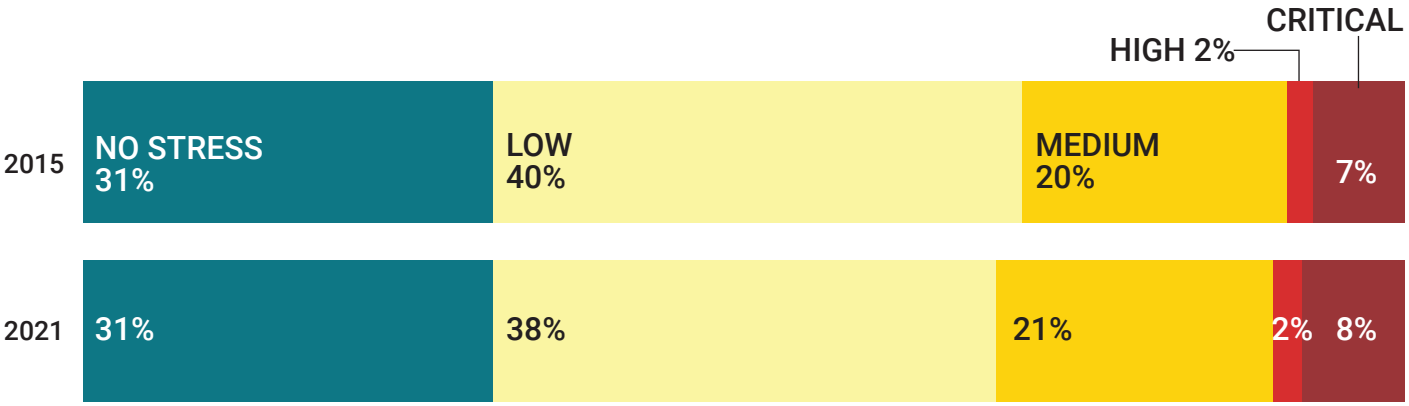
FIVE COUNTRIES WITH HIGH WATER STRESS LEVELS HAVE SEEN A DECLINE IN STRESS LEVELS SINCE 2015 (%)



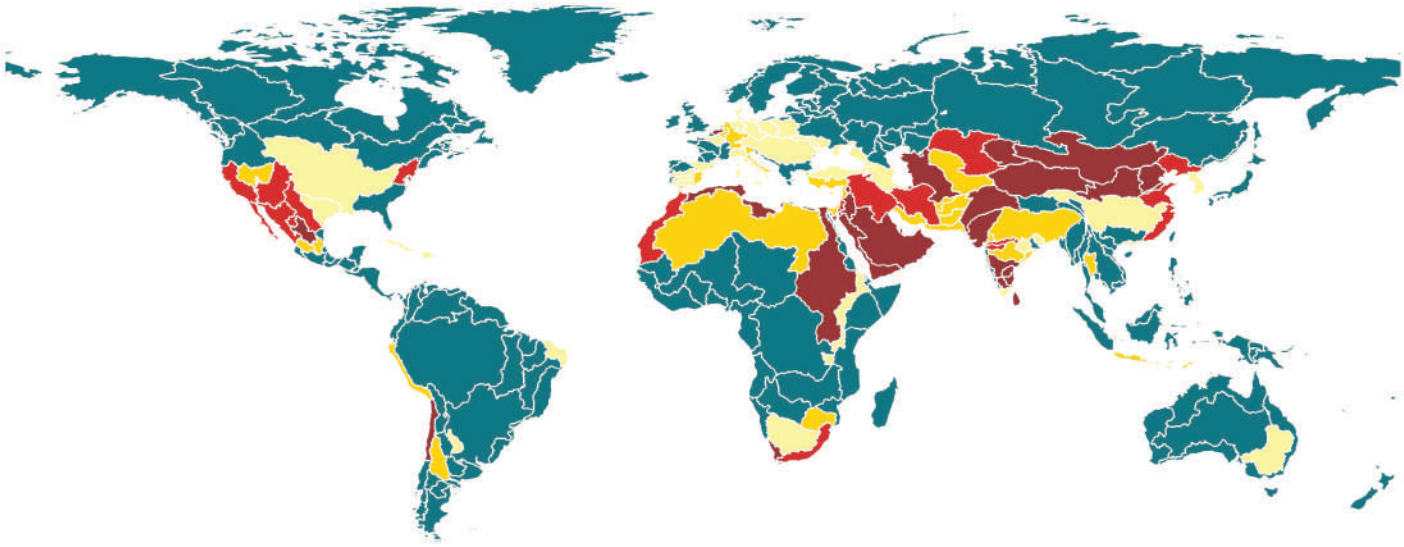
[1]Note: the designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

On average, approximately 10% of the population live in countries with high and critical water stress levels.

PERCENTAGE OF THE GLOBAL POPULATION LIVING IN WATER STRESSED COUNTRIES



LEVEL OF WATER STRESS BY MAJOR RIVER BASIN, 2018-2021



The map of water stress by major basin shows the existence of a **water stress belt** running across the globe approximately between 10 and 45 degrees north, with a few other areas above and below it. Countries that may appear on the safe side can include much more stressed basins.

Conclusions

Water stress remains a significan challenge for sustainable development.

Water stress varies significantly across different regions, with some countries more vulnerable due to specific water conditions.

The spatial disaggregation of water stress levels is needed to capture subnational variations.

At the sectoral level, agriculture is both a significant contributor to and a victim of rasing water stress levels.

The sustainable management of water resources in agriculture enhances food security and progress towards SDG 2.

Social and equity aspects are essential when analisying progress on SDG 6.4.2

To address water stress and its challenges effectively, targeted actions are needed across different governance levels.

01 LOCAL LEVEL

- Communities should prioritize water conservation measures including rainwater harvesting, efficient irrigation practices and water recycling.
- Local authorities can monitor water use and promote sustainability.
- Enhancing productivity in rainfed agriculture can alleviate pressure on freshwater resources for irrigation.

02 NATIONAL GOVERNMENTS

- Develop integrated water management policies and plans that encompass conservation, management, and equitable distribution of water resources.
- Invest in grey or green infrastructure for water storage and distribution, enforcing regulations to prevent pollution and over-extraction.
- Promoting public awareness campaigns on water conservation as well as economically incentivize its application.

03 REGIONALLY

- Collaboration among neighboring jurisdictions is crucial for addressing shared water challenges.
- Establish agreements and mechanisms for cooperative management of transboundary water sources.
- Regional bodies can facilitate knowledge exchange, capacity building, research and monitoring to mitigate water stress.

04 INVESTMENT BANKS AND DONORS

- Allocate financial resources for water-related projects, including infrastructure development, capacity building, and technology adoption, prioritizing areas facing acute water stress.
- Provide funding for research and innovation in water technology, such as desalination, water recycling, and efficient irrigation systems, to address water scarcity challenges and tie the funding to adherence to sustainable water management practices.

05 PRIVATE SECTOR

- Adopt water stewardship practices, like water efficiency measures, pollution prevention, and community engagement initiatives.
- Promote water sustainability by investing in technologies and solutions such as wastewater recycling systems water-efficient products, and sustainable agricultural practices.
- Collaborate with governments, NGOs, and other stakeholders to promote sustainable water management practices.

6 CLEAN WATER AND SANITATION

SDG 6 Progress Update Series, by SDG 6 global indicator

This Visual Summary is part of a series of reports providing an in-depth update and analysis of progress towards the different SDG 6 targets and identifies priority areas for acceleration: Progress on household drinking water, sanitation and hygiene (SDG indicators 6.1.1, 6.2.1), Progress on wastewater treatment (6.3.1), Progress on ambient water quality (6.3.2), Progress on water-use efficiency (6.4.1), Progress on level of water stress (6.4.2), Progress on integrated water resources management (6.5.1), Progress on transboundary water cooperation (6.5.2), Progress on water-related ecosystems (6.6.1) and Progress on international cooperation and local participation (6.a.1, 6.b.1).

The reports are produced by the responsible custodian agencies, coordinated by UN-Water through the Integrated Monitoring Initiative for SDG 6 (IMI-SDG6). They present the latest available country, region and global data on the SDG 6 global indicators, and are published every two to three years.

To know more about the SDG 6.4.2 indicator, please visit the FAO IMI-SDG6 dedicated website and AQUASTAT website.

See the full collection of reports and associated products at www.unwater.org/publications/sdg-6-progress-reports or scan the QR code below.