

LACK OF FRESH WATER

Definition: The right to water is protected under international human rights law as everyone's entitlement to "sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses."¹ Lack of fresh water also poses a threat to economic development.

Demographic pressures, the rate of economic development, urbanization and pollution are all putting unprecedented pressure on the world's water resources². Worldwide, an estimated 768 million people remain without access to an improved source of water. Some estimates however, puts the number of people whose right to fresh water is not satisfied as high as 3.5 billion - while 2.5 billion remain without access to improved sanitation³. At the current rate of investment, 1 billion people will miss the Millennium Development Goal (MDG) on halving the number of people without proper access to fresh water and sanitation⁴.

The demand for water is growing and is projected to overshoot supply by 40 pct. in 20 years' time. There is already extensive local and regional water stress. Several factors add to this:

- Urbanization will make more people dependent upon often scarce local water resources, especially in developing countries.
- Global warming affects the water supply in several regions.
- Poor sanitation and water management lead to extensive waste of water.

- Water use is deeply intertwined with agriculture and energy (the food-energy-water nexus) sharing a range of linked vulnerabilities⁵.

- Pollution from agriculture, industry, extraction and urban areas is threatening groundwater.

When people do not have access to water, either large amounts of their disposable income have to be spent on purchasing water from vendors or large amounts of time, in particular from women and children, have to be devoted to transporting it. This erodes the capacity of the poor to engage in other activities.

GROWING POPULATION AND AFFLUENCE IS EXPECTED TO INCREASE COMPETITION FOR WATER RESOURCES

Industrial water use increases with income - competing water uses for main income groups of countries⁶

LOW-AND MIDDLE INCOME COUNTRIES



HIGH-INCOME COUNTRIES



WORLD



■ AGRICULTURE ■ INDUSTRIAL USE ■ DOMESTIC

FACTS AND FIGURES

Global water demand (in terms of water withdrawals) is projected to increase by 55 pct. by 2050, mainly because of growing demands from manufacturing (400 pct.), thermal electricity generation (140 pct.) and domestic use (130 pct.)⁸

Of the estimated 1 400 million cubic km of water in the world, only 0.003 pct., about 45 000 cubic km, are what is called fresh water resources. This term covers water that theoretically can be used for drinking, hygiene, agriculture and industry. Not all of this water is accessible however.⁹

IMPACTS

Nearly ten percent of watersheds in USA are overexploited when it comes to their water supply. For nearly half the country, water stress is projected to worsen by mid-century because of climate change. This water is going into agriculture, municipal use, or cooling for power plants.¹⁰

In India, more than 70 pct. of annual rainfall takes place during the three months of the monsoon; most of it floods out to sea. As a result, farmers who lack irrigation must contend with water scarcity through much of the year.¹¹

When water from the Aral Sea was withdrawn to irrigate cotton, the annual flow of water into the Sea was reduced by almost 85 pct.. As a result, the sea level fell by 16 meters between 1981 and 1990. Twenty of the 24 species of fish disappeared. The fish catch - which totaled 44 000 tonnes a year in 1950 and supported 60 000 jobs - vanished. Moreover, toxic dust-salt from the dry seabed was deposited on the surrounding farmland, killing crops.¹²

¹UN International Covenant on Economic Social and Cultural Rights, General Comment 15, para. ²FAO. 'Coping with water scarcity - An action framework for agriculture and food security'. Report. 2012. ³UN-WWAP. 'Water and Energy - Volume 1'. Report. 2014 ⁴UNEP. 'Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication'. Report. 2011. ⁵Water Resource Group. 'Charting our Water Future'. Report. 2009. ⁶WBCSD. 'Facts and Trends - Water'. Report. 2005. ⁷Ibid. ⁸UN-WWAP. 'Water and Energy - Volume 1'. Report. 2014 ⁹FAO. 'Water at a Glance'. Online: www.fao.org/3/a-ap505e.pdf accessed: 13/08/14 ¹⁰K Averyt et al. 'Sectoral contributions to surface water stress in the coterminous United States'. Environmental Research Letters 8. 2013. ¹¹FAO. 'Water at a Glance'. Online: www.fao.org/3/a-ap505e.pdf accessed: 13/08/14 ¹²Ibid.

RISK #4: LACK OF FRESHWATER

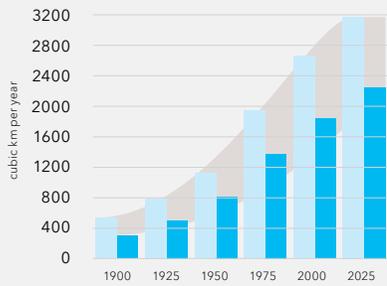
AGRICULTURE LAGS BEHIND ON EFFICIENCY GAINS

The amount of water extracted and consumed 1900-2025¹³

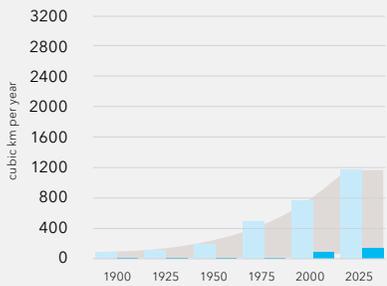
The grey area marks the amount of water that can be being reused or reintroduced to waterways after use. Agriculture has the greatest consumption.

EXTRACTION CONSUMPTION

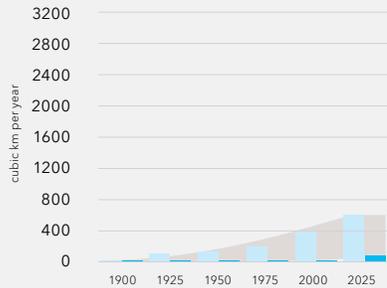
AGRICULTURE



DOMESTIC USE



INDUSTRY



WATER RESOURCES ARE ALREADY STRAINED IN VAST AREAS

Areas of physical and economic water scarcity¹⁵

PHYSICAL WATER SCARCITY

Use of water resources is approaching or has exceeded sustainable limits. More than 75 pct. withdrawn.

APPROACHING PHYSICAL WATER SCARCITY

More than 60 pct. of river flows are withdrawn. These basins will experience physical water scarcity in the near future.

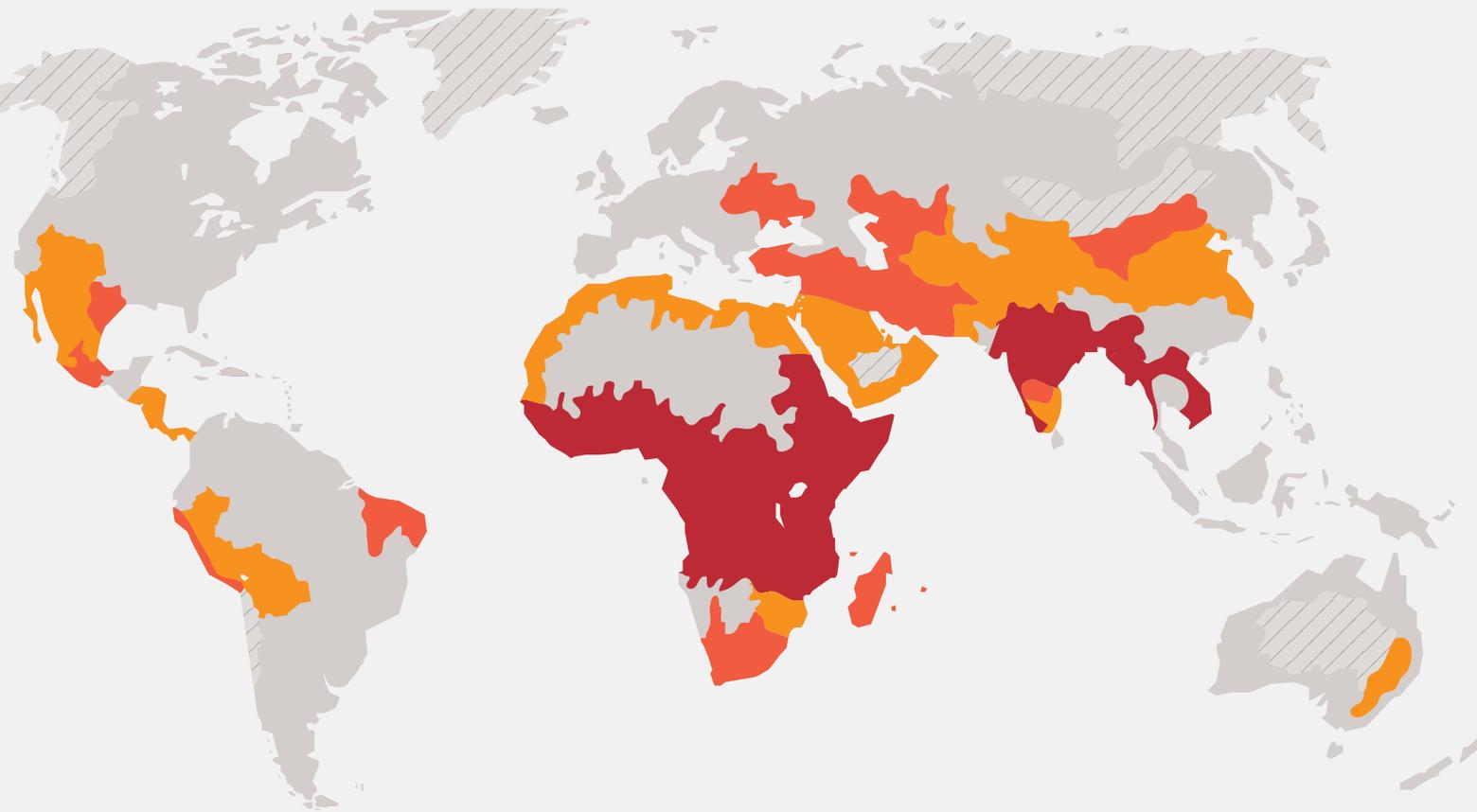
ECONOMIC WATER SCARCITY

Human, institutional, and financial capital limit access to water even though water is available to meet human demands. Less than 25 pct. of water from rivers withdrawn, but malnutrition exists.

LITTLE OR NO WATER SCARCITY

Abundant water resources relative to use, with less than 25 pct. of water from rivers withdrawn for human purposes.

NO DATA



¹³ Philippe Rekacewicz, UNEP/GRID-Arendal, Online: grida.no/graphicslib/detail/trends-and-forecasts-in-water-use-by-sector_f884

¹⁴ Ibid

¹⁵ Molden, D. 'Comprehensive Assessment of Water Management in Agriculture'. London. International Water Management Institute Report. 2007.