

Section I: Water, Sanitation and Hygiene: Meeting the Need

2.1 Billion People Lack Safe Drinking Water at Home, More Than Twice as Many Lack Safe Sanitation, [Joint Press Release](#). Available at: https://www.unicef.org/media/media_96632.html

WHO, UNICEF release first global estimates for water, sanitation and hygiene for the Sustainable Development Goals

WHO water, sanitation and hygiene strategy 2018-2025 Available at:

http://www.who.int/water_sanitation_health/publications/wash-strategy-2018-2015/en/
PDF available from this link: [WHO water, sanitation and hygiene strategy 2018-2025](#)

Overview from WHO: “This strategy sets out the direction and role of WHO within the context of the SDGs and WHO’s 13th Programme of Work. It reinforces WHO’s traditional role as a source of authoritative guidelines, technical assistance, and evidence for policy-making. It describes how WHO will increase its impact through introduction of transformational approaches, and tackling new results areas like WASH in health care facilities.” **Authors:** World Health Organization.

Publication date: 2018, WHO reference number: WHO/CED/PHE/WSH/18.03

12 World Leaders Issue Clarion Call for Accelerated Action on Water

Available at: <http://www.un.org/sustainabledevelopment/blog/2018/03/12-world-leaders-issue-clarion-call-accelerated-action-water/>.

A fundamental shift is needed to avert devastating consequences, says High Level Panel on Water

New York, 14 March, 2018— A High Level Panel on Water consisting of 11 Heads of State and a Special Advisor has issued a New Agenda for Water Action calling for a fundamental shift in the way the world manages water so that the Sustainable Development Goals (SDGs), and in particular SDG6, can be achieved. This follows a 2-year mandate to find ways to accelerate solutions to the urgent water crisis. “Making Every Drop Count: An Agenda for Water Action,” presents many recommendations as part of an Outcome Report from the Panel, which was convened in January 2016 by the United Nations Secretary-General and the World Bank Group President.

“World leaders now recognize that we face a global water crisis and that we need to reassess how we value and manage water,” said UN Secretary-General António Guterres. “The panel’s recommendations can help to safeguard water resources and make access to safe drinking water and improved sanitation a reality for all.”

FAO. 2015a. The Impact of Natural Hazards and Disasters on Agriculture and Food Security and Nutrition – A call for action to build resilient livelihoods. Updated May 2015.

Available at: <http://www.fao.org/3/a-i4434e.pdf>

(This brochure presents the preliminary findings of an FAO study on the impact of natural hazards and disasters on the agriculture sector and subsectors in developing countries.)

FAO. 2015b. Climate change and food systems: global assessments and implications for food security and trade. Rome. Available at: <http://www.fao.org/3/a-i4332e.pdf>

(Although our understanding of climate change impacts on food systems has expanded, more policy-relevant evidence is required. Stronger emphasis needs to be placed on other important drivers like bioenergy, water and trade. Climate impact science also needs to become more systems-based and improve cross-sectoral frameworks to examine a number of critical linkages: climate-food-trade, climate-nutrition-health, climate-food-water, and climate-food-energy. This book is the outcome of an expert consultation organized by FAO in November 2013 which gathered acknowledged experts in climate impact research. The 11 chapters cover the latest scientific and economic evidence on climate impact assessments of crop and livestock systems.)

FAO. 2015c. Coping with climate change – the roles of genetic resources for food and agriculture. Rome Available at: <http://www.fao.org/3/a-i3866e.pdf>

(Climate change is one of the key drivers of biodiversity loss. At the request of the Commission on Genetic Resources for Food and Agriculture, FAO prepared thematic studies on the interactions between climate change and plant, animal, forest, aquatic, invertebrate and micro-organism genetic resources. This publication summarizes the results of these studies. It aims to raise awareness of the important roles of genetic resources for food and agriculture in coping with climate change and to contribute to the mainstreaming of genetic resources for food and agriculture into climate change adaptation and mitigation planning at national and international levels.)

FAO, 2015d. Food wastage footprint & Climate Change. Rome. Available at:

http://www.fao.org/fileadmin/templates/nr/sustainability_pathways/docs/FWF_and_climate_change.pdf

(The 2011 FAO assessment of global food losses and waste estimated that each year, one-third of all food produced in the world for human consumption never reached the consumer's table. This not only means a missed opportunity for the economy and food security, but also a waste of all the natural resources used for growing, processing, packaging, transporting and marketing food. This leaflet provides a summary of the food wastage footprint on natural resources, most notably its carbon footprint, based on FAO analysis.)

Close to One Million Water Filters Delivered to Rural Kenyans in Lifestraw Carbon for Water Program Available at: <http://www.solutions-site.org/node/495>

Nearly 900,000 LifeStraw® Family water filters will be installed in almost all households in the Western Province of Kenya thanks to a program which began on 26 April 2011

USEPA - Each year by July 1st you should receive a Consumer Confidence Report (CCR), also known as an annual drinking water quality report from your water supplier. Your CCR tells you where your water comes from and what's in it. Find your CCR via the map or State list Available at: https://ofmpub.epa.gov/apex/safewater/f?p=ccr_wyl:102

The Effects of Population on the Depletion of Fresh Water Available at:

<http://www.solutions-site.org/node/1341>

Article by Professor Robert J. Wyman, Yale University

NASA Soil Moisture Active Passive Available at: <https://smap.jpl.nasa.gov/>

Soil Moisture Active Passive is an Earth satellite mission that measures and maps Earth's soil moisture and freeze/thaw state to better understand terrestrial water, carbon and energy cycles.

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World Health Organization (WHO) Fact sheets on water and sanitation Available at:
[http://www.who.int/mediacentre/factsheets/fs392/en/.](http://www.who.int/mediacentre/factsheets/fs392/en/)

Related links

- [Water factsheet](#)
- [Sanitation safety planning](#)
- [WHO/UNICEF Joint Monitoring Programme](#)
- [Urgent call to action on sanitation](#)
- [WHO guidelines for the safe use of wastewater, excreta and greywater](#)
- [Ending preventable child deaths from pneumonia and diarrhoea by 2025](#)
- [GLAAS](#)
- [GEMI](#)

Africa Water Atlas. Available at:

https://www.wiley.com/legacy/wileychi/selendy/supp/Africa_Water_Atlas_Executive_Summary.pdf

The 'Water Atlas Article' file provides information and links.

Africa Water Atlas Executive Summary for decision makers in PDF format. Available at:

http://www.wiley.com/legacy/wileychi/selendy/supp/Africa_Water_Atlas_Executive_Summary.pdf

"America has a drinking water crisis. An NRDC study has found that contaminants that may harm human health are found in tap water in every state in the nation." May 2017 Available at:

<https://www.nrdc.org/resources/threats-tap-widespread-violations-water-infrastructure>

[Evbuotubu Primary School, Nigeria: A Journalist's Experience \(1 and 2\)](#) Need for Interventions in School W.A.S.H Education and Awareness Creation. Flooding apart, environmental awareness, Water, Sanitation and Hygiene (WASH) education and culture this reporter observed at Evbuotubu Primary School is grossly low, a microcosm of the Nigerian rural and sub-urban situation.

[Your Help Desperately Needed by Millions of Starving People According to UNICEF](#) "More than 10 million people across the Horn of Africa are in dire need of humanitarian assistance due to a deadly combination of drought, escalating food prices and armed conflict. Hundreds of thousands of children are facing death due to starvation."

[NASA Satellites Find Freshwater Losses in Middle East](#) A new study using data from a pair of gravity-measuring NASA satellites finds that large parts of the arid Middle East region lost freshwater reserves rapidly during the past decade.

[Learning from Earth's History about Changing the Chemistry of the Atmosphere and Oceans](#) The oceans may be acidifying faster today than they did in the last 300 million years, according to scientists who published a paper in the March 2, 2012 issue of the journal Science. "These scientists have synthesized and evaluated evidence far back in Earth's history," said Candace Major, program officer in the National Science Foundation's (NSF) Division of Ocean Sciences, which funded the research. "The ocean acidification we're seeing today is unprecedented a result of the very fast rates at which we're changing the chemistry of the atmosphere and oceans."

Singapore Students Win 2012 Stockholm Junior Water Prize Available at:

<http://www.solutions-site.org/node/806>

The winners were students Luigi Marshall Cham, Jun Yong Nicholas Lim and Tian Ting Carrie-Anne Ng from Singapore for their research on how clay can be used to remove and recover pollutants from wastewater. A Diploma of Excellence was given to Alonso Alvarez and Daniel Barrientos from Chile for their project which outlined how salmon waste from the fishing industry can be used for biofuel production.

PepsiCo Receives the 2012 Stockholm Industry Water Award Available at:

<http://www.solutions-site.org/node/805>

PepsiCo received the Stockholm Industry Water Award at the 2012 World Water Week in Stockholm for its work to reduce water consumption in their operations and to help solve water challenges on a broad scale.

Finding Means to Meet Water and Food Needs at 2012 World Water Week Available at:

<http://www.solutions-site.org/node/796>

The 2012 [World Water Week](#) (WWW) in Stockholm, Sweden, organized by the [Stockholm International Water Institute Stockholm \(SIWI\)](#), undertook the task of addressing crucial concerns focusing on "Water and Food Security," with publications and videos prepared in advance to provide background and to stimulate conversations among the 2,500 WWW participants in order to build on knowledge what is successfully working and to advance positive action.

Global Leaders are Convening at World Water Week to Confront Growing Water and Food Insecurity Available at: <http://www.solutions-site.org/node/788>

Over 2500 politicians, business leaders, and representatives of 200 international organizations are meeting at the World Water Week in Stockholm, August 26- 31 2012, where they are working to share knowledge of solutions and to forge new solutions to meet rapidly escalating demands for limited water and land from all sectors of the economy.

[World Water Week](http://www.worldwaterweek.org/) Available at: www.worldwaterweek.org/

World Water Week. 26 – 31 August, 2018. *World Water Week* is the annual focal point for the globe's water issues. It is organized by SIWI. In 2018, *World Water Week* will address the theme “Water, ecosystems and human development.”

“World Water Week is the annual focal point for the globe’s water issues. It is organized by [SIWI](http://www.siwi.org/). In 2018, World Water Week will address the theme “Water, ecosystems and human development”. In 2017, over 3,300 individuals and around 380 convening organizations from 135 countries participated in the Week.

“Experts, practitioners, decision-makers, business innovators and young professionals from a range of sectors and countries come to Stockholm to network, exchange ideas, foster new thinking and develop solutions to the most pressing water-related challenges of today. We believe water is key to our future prosperity, and that together, we can achieve a water wise world.”

Study Finds Grazing by Wild Animals Like Zebra Doesn't Always Harm, and May Help, Livestock Like Cattle Available at: <http://www.solutions-site.org/node/527>

African ranchers often prefer to keep wild grazers like zebras off the grass that fattens their cattle. But a new study by Kenyan and University of California at Davis researchers shows that grazing by wild animals doesn't always harm, and may sometimes benefit, cattle

International Water Management Institute (IWMI) named 2012 Stockholm Water Prize Laureate. Available at: <https://www.solutions-site.org/node/693>

The [International Water Management Institute](http://www.iwmi.org/) (IWMI), with headquarters in Colombo, Sri Lanka, has been named the 2012 Stockholm Water Prize Laureate for their pioneering research that has served to improve agriculture water management, enhance food security, protect environmental health and alleviate poverty in developing countries.

The **International Water Management Institute (IWMI)**. Available at <http://www.iwmi.cgiar.org/about/who-we-are/>

IWMI is a non-profit, scientific research organization focusing on the sustainable use of water and land resources in developing countries. IWMI works in partnership with governments, civil society and the private sector to develop scalable agricultural water management solutions that have a real impact on poverty reduction, food security and ecosystem health. Headquartered in Colombo, Sri Lanka, with regional offices across Asia and Africa, IWMI is a [CGIAR](http://www.cgiar.org/) Research Center and leads the [CGIAR Research Program on Water, Land and Ecosystems](http://www.cgiar.org/program-on-water-land-and-ecosystems/) (WLE).

IWMI's Mission is to provide evidence-based solutions to sustainably manage water and land resources for food security, people's livelihoods and the environment.

IWMI's Vision, as reflected in the [Strategy 2014-2018](http://www.iwmi.org/strategy-2014-2018/), is ‘a water-secure world’. IWMI targets water and land management challenges faced by poor communities in the developing countries, and through this contributes towards the achievement of the [Sustainable Development Goals](http://www.sustainabledevelopmentgoals.org/) (SDGs) of reducing poverty and hunger, and maintaining a sustainable environment. These are also the goals of [CGIAR](http://www.cgiar.org/).

IWMI works through collaborative research with many partners in the North and South, and targets policymakers, development agencies, individual farmers and private sector organizations.

Drought Adds to Woes of Afghanistan, in Grips of a Raging War

Available at: <https://www.nytimes.com/2018/05/27/world/asia/afghanistan-drought-war.html>
New York Times, May 27, 2018

NASA Satellites Reveal Major Shifts in Global Freshwater

Available at: <http://www.solutions-site.org/node/1574>

In a first-of-its-kind study, scientists have combined an array of NASA satellite observations of Earth with data on human activities to map locations where freshwater is changing around the globe and to determine why. The study, published Wednesday, May 16, 2018 in the journal **Nature**, finds that Earth's wet land areas are getting wetter and dry areas are getting drier due to a variety of factors, including human water management, climate change and natural cycles.

NASA 25-year Study Finds Sea Level Rise Accelerating

Available at: <https://www.nasa.gov/feature/goddard/2018/new-study-finds-sea-level-rise-accelerating>

Global sea level rise has been accelerating in recent decades, rather than increasing steadily, according to a new study based on 25 years of NASA and European satellite data.

Relationship between water, sanitation, hygiene, and nutrition: what do Link NCA nutrition causal analyses say?

Available at: <https://www.developmentbookshelf.com/doi/abs/10.3362/1756-3488.17-00005> And available at: <https://doi.org/10.3362/1756-3488.17-00005>, Published Online: October 01, 2017 by Practical Action Publishing

Abstract excerpt: Defined by UNICEF as 'the outcome of insufficient food intake and repeated infectious diseases', undernutrition is one of the world's most serious problems, with long-lasting harmful impacts on health and devastating consequences for social and economic development.

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Available at: https://ofmpub.epa.gov/apex/safewater/f?p=ccr_wyl:102

"America has a drinking water crisis. An NRDC study has found that contaminants that may harm human health are found in tap water in every state in the nation." May 2017

Available at: <https://www.nrdc.org/resources/threats-tap-widespread-violations-water-infrastructure>

Near-Record Tree Cover Losses in 2017 Strip Area as Big as Italy

Available at: <https://www.nytimes.com/reuters/2018/06/27/world/americas/27reuters-environment-forests.html>

New York Times, By Reuters, June 28, 2018

Excerpt: The world lost tree cover the size of Italy in 2017 as forests were cleared using fire to make way for farms from the Amazon to the Congo Basin, an independent forest monitoring network said on Wednesday. Tree cover loss, mostly in the tropics, totalled 294,000 square kilometres

(113,000 square miles) last year, just short of a record 297,000 sq kms in 2016, according to Global Forest Watch, run by the U.S.-based World Resources Institute (WRI).