



Food and Agriculture
Organization of the
United Nations



16 October 2023

World Food Day

WATER IS LIFE
IS FOOD



**LEAVE
NO ONE
BEHIND**



Act like our life -and food- depends on it

Water scarcity is one of the foremost development issues of our time. And yet, depending on where we are in the world, the fragility of our water resources may not always be evident. Perhaps because for many of us water is everywhere in our daily lives and economy, it can be hard to imagine that, today, **2.4 billion people live in countries that are stressed for water.**^{1,2}

As blue as our planet is, it's easy to forget that only **2.5 percent of water on Earth is freshwater.**³ And that supply is far from evenly distributed. It's also dwindling fast.

The reasons are diverse but ultimately human-made. The result is less and less water for drinking, growing food and producing the goods we need – and for sustaining the ecosystems we depend upon.

As often is the case, those who feel the crunch first and hardest are those who live in water scarce areas and have the least capacity to cope. **If we are committed to leaving no one behind, action on water cannot wait.**

With nearly **three-quarters of all freshwater going to agriculture,** changing the ways we produce our food, fibre, and other agricultural products has the biggest potential for impact.³ It is also where failure to act will become most apparent.

Without action, we are on course to increase our water use by more than a third by 2050.

That means, collectively, we risk reaching a point of no return, and climate change is bound to worsen our water challenges.

We can and have to find ways to produce more with less water. We need to shield our existing freshwater resources and aquatic food systems from pollution and impacts of climate change, and we have to ensure that people have more equal access to water. In other words, we have to treat our remaining water like our life –and food– depends on it.



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Understanding the challenges

Over the last two decades, roughly speaking, **each of us on earth has lost one-fifth** of the freshwater available to us.³

For some people, the reality is much worse. In some regions, in fact, it runs closer to one-third.

Rapid population growth, urbanization, economic development, and climate change have all taken a toll on our water resources. Paired with water **pollution, overextraction** and overall **poor management**, this creates a complex mix of challenges.

To illustrate the scale of just one of these: more than 80 percent of the world's wastewater today is released into the environment untreated and has never been reused.

The resulting water pollution is affecting all of us, including around 600 million people who engage in fisheries for a living.⁴

Water challenges affect different people in different ways.

Particularly in water-stressed areas, even the smallest change can have a major impact on people's lives. Those hardest hit by water scarcity are oftentimes small-scale producers in lower-income countries who already struggle to meet their daily needs for water, food and basic services. This is particularly true for women and girls, Indigenous Peoples, migrants and refugees.

Poor water governance often creates conflict. Different groups may be using one water source peacefully for a long time, but as that water becomes less abundant, farmers, forest-dependent people, herders and others may find themselves at odds over who has the right to use it and to what extent. This poses challenges for local water governance systems and for national legal frameworks that don't always recognize traditional rights over these water resources and grasp the changing needs.



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On top of that, **extreme weather events are increasing –and most involve water.** Around 74 percent of all disasters from 2001 to 2018 were water related, causing economic damage of nearly USD 700 billion.⁵

Flood-related disasters have more than doubled since 2000, and the number and duration of droughts increased by almost a third.

The threats that too little or too much water pose to our food security, ecosystems and well-being should be clear to all of us. So should the urgency to act to ensure a water-secure future for all.

TRACKING GROUNDWATER DEPLETION WITH SATELLITE TECHNOLOGY

99 percent of liquid freshwater on Earth is groundwater.³ It is the source of a quarter of all the water we use in our daily lives. Unfortunately, it is poorly understood, monitored and managed. As a result, in many parts of the world, groundwater is already being over-used or polluted. That's why FAO is developing tools to help governments and communities with groundwater management.

One such tool is **FAO's WaPOR.** Using satellite technology, it offers a way to estimate groundwater consumption and withdrawal in near-real time by measuring "evapotranspiration". That means the water that crops and other vegetation consume as they grow.

WaPOR provides open access data for all regions in the world. This helps governments and farmers monitor water productivity in agriculture and identify areas to cut water losses, for example by modernizing irrigation system, managing water better or switching to different crops or planting times that are more favourable and adapted to the climate conditions.



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TAKING ANTICIPATORY ACTION ON EL NIÑO

Every two to seven years, parts of the Pacific Ocean heat up to abnormal degrees in a natural phenomenon we know as El Niño. It disrupts normal rainfall patterns and triggers extreme weather events around the globe, including droughts and floods, for up to 18 months.

To be prepared for the possibility of having to support at-risk communities quickly, FAO, its Member Nations and UN partners

develop anticipatory action protocols. At FAO, drought protocols are in place in nine countries and areas across Africa, Asia and Latin America. That means if forecasts materialize in any of these places and cross the thresholds for anticipatory action, FAO is ready to act early to protect the livelihoods of vulnerable farming families. Standard operating procedures are also in place to expedite timely interventions in emergencies, such as setting up community seed

stores, assessing strategic food reserves and bolstering campaigns to monitor animal health.

Thanks to these pre-designed action plans, farmers will receive context-specific support before they lose everything, at a time when they are still able to shield most of their assets, like livestock and crops, and bounce back quickly from any losses they suffer.

Building solutions

Managing water more wisely starts with building partnerships. That means, wherever possible, governments need to collaborate with researchers, businesses and civil society to build solutions that guarantee water security for future generations.

Governments need to design science and evidence-based policies that capitalize on data and innovation, and coordinate across sectors to plan and manage water better. Water, energy and food are inextricably linked, and for policies to be successful, it's important they manage often-competing interests without compromising the health of our ecosystems.

A big part of that will involve finding ways to produce more food and agricultural products with less water. But it also means preventing the degradation of water bodies

and water quality, and restoring damaged land and water ecosystems. It means ensuring that people, no matter where they live and who they are, have access to enough clean water and the means to withstand weather shocks.

Since climate change increases precipitation variability water stresses and extreme weather, with more frequent and longer droughts and floods, implementing policies to limit global warming to 1.5°C will be an important part of the solution, as will programmes to protect the most vulnerable.⁶

To make these policies work, they need to be backed by **increased investment, legislation, technologies, innovative approaches, and capacity development.** This includes more investment and research into efficient irrigation, wastewater treatment and reuse, for example, but also





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circular economy approaches and integrated soil and water management. Investments in infrastructure, like irrigation and dams, are equally important.

They also need to incentivize farmers and businesses to get involved.

Farmers need to become agents of water management and be equipped with the right tools to do so sustainably.

Farmers, forest-dependent people, livestock producers and those working in the blue economy already manage water on a daily basis. Supporting and encouraging them to take leadership in finding and implementing water solutions is both the obvious and the smart thing to do. This is not possible, though, without providing them with appropriate technologies, training and information and involving them in all stages of the planning and decision-making process. Managing water starts by selecting and using the right biodiversity in production systems. That includes local

livestock races, crops and plants (species and varieties) that are resilient and adapted to the environment.

Businesses need to become water stewards. That means making concrete commitments to improving water use efficiency and reducing pollution across the supply chain. This doesn't just benefit nature and society but businesses too. Taking water governance seriously can boost their reputation and profits and help them avoid risks that water scarcity, floods, pollution or tighter regulations could pose to operations in the future.

We all need to stop taking water for granted. Making informed decisions about the products we buy, wasting less water and preventing pollution are easy ways for everybody to contribute to positive action for the future of food, people and the planet.

IMPROVING WATER TENURE GOVERNANCE TO PROMOTE PEACE

Water scarcity often triggers competition between different groups. Farmers, for example, are not always willing to share their limited water resources with the livestock of nomadic pastoralists.

Many people, especially in rural areas, rely on customary rules rather than formal legal rights. That includes Indigenous Peoples too. That's why **FAO's assessments of water tenure** examine the

relationships that people have with water resources in a particular area, whether based on formal laws or on customs and tradition.

Looking at different rights systems helps governments and local leaders understand water needs and governance, address conflicts, and make sure water resources are shared equitably. In some cases, that means expanding laws to cover unprotected groups. Through the

Global Dialogue on Water Tenure that FAO is facilitating between 2022 and 2026, Member countries and other actors will come together regularly to discuss principles for responsible governance of water resources. The ultimate goal is to promote peace and ensure all water users are secure in their access to water for their health and sanitation, food security and livelihoods, without compromising the needs of healthy ecosystems.



Working with countries on water action

Because nearly three quarters of the freshwater we withdraw goes to agriculture, the Food and Agriculture Organization of the United Nations stands in a unique position to offer solutions to address challenges related to water scarcity.³ The same goes for water-related disasters, including droughts and floods, many of which disproportionately affect farming families.

That's why FAO works with governments and communities to build country-owned and country-led National Water Roadmaps, a tool to strengthen intersectoral coordination of water at national level. It also builds the datasets and technology they need to take well-informed decisions.

Along the way, FAO works with countries to increase farmers' access and rights to water as part of its efforts to improve water governance. It helps fishing and farming communities adapt to climate change and get more out of their production. It also promotes investments in water infrastructure and irrigation and works with governments to manage drought risks before they turn into crises.

In the **Syrian Arab Republic**, for example, FAO has **restored irrigation** to 80 000 ha of farmland between 2011 and 2023. This and ongoing work is benefitting half a million farming families.

In **Africa**, the **Caribbean** and **the Pacific**, FAO is working with ten countries to boost their fisheries sectors by **improving value chains**. Small-scale fishers and aquaculturists learn skills that help them access new markets, while also protecting fish stocks and environments.

In **El Salvador**, the heart of Central America's Dry Corridor, FAO is helping farmers **restore ecosystems and water resources** by reintroducing native trees that increase water retention in the soil. Under the project, communities have built more than 30 tree nurseries and restored more than 17 000 ha of critical ecosystems through agroforestry.

In **northern Somalia**, where flash flooding has displaced communities and caused significant damage to infrastructure and farmland, FAO is building a weir that will serve as a water reserve and prevent floods. It will also contribute to pasture regeneration that will keep livestock fed and healthy.

In **Burkina Faso**, **Cabo Verde**, **Chad**, the **Gambia**, **Mali**, the **Niger** and **Senegal**, FAO's One million cisterns for the Sahel initiative uses rainwater harvesting and storage systems to help vulnerable communities, and especially women, to save safe drinking water, enhance food production

and nutrition, and strengthen their resilience to water shocks.

As the host organization of **WASAG, the Global Framework on Water Scarcity in Agriculture**, FAO is bringing together government agencies and other key players worldwide to share knowledge and design new policies, strategies and programmes that build capacity to adapt agriculture to water scarcity.

FAO is also working with countries on implementing key points of the UN's Water Action Agenda relating to National Water Road Maps, water tenure, drought risk management, water data, and evaporation monitoring. The agenda is the outcome of the 2023 UN Water Conference at which FAO played a central role.





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MIXING RICE AND FISH FARMING IN LAO PDR

In the Lao People's Democratic Republic, FAO is working with rice farmers to reintroduce the ancient practice of rice-fish farming. Not only do farmers get more out of their rice fields by incorporating fish farming into their paddies, it is also a natural way to control pests, fertilize crops and boost biodiversity in the landscape.

The fish eat the insects, and the microbe-rich water feeds the rice. The practice goes back thousands of years but fell out of favour in recent decades with the intensification of production and pesticide use.

Those modern practices are increasingly becoming environmentally unsustainable.

That's why FAO, through its **Regional Rice Initiative**, has been working with the Lao agriculture ministry to help farming communities make simple changes to their farming that maximize their water resources and revenues. The result is more food with less water, reduced poverty and a healthier environment.

Know your facts

95% of our **food is produced on land** and all begins with **soil** and **water**.³

Agriculture accounts for **72%** of **global freshwater** withdrawals. Another **12%** goes to municipalities for **households** and **services**, and **16%** is used by **industries**.³

2.4 billion people live in water-stressed countries. Some 10% of the global population live in countries with high and critical water stress.^{1,2}

Over **80%** of the world's **wastewater** is **released** into the environment **without being treated**.^{7,8,9}

Global **water** demand for **agriculture** is expected to **increase 35% by 2050**.¹⁰

Around **3/4** of all **disasters** from 2001 to 2018 **were water-related**. They caused nearly **USD 700 billion** in economic **damage**.⁵

Since 2000, **flood-related disasters** have increased by **134%**. The number and duration of **droughts** **increased** by **29%**.¹¹

Wetlands - the most biologically diverse of all ecosystems - are **disappearing three times faster** than forests. Some **85% have been lost** over the past 300 years.¹²

Limiting global **warming to 1.5°C**, compared to 2°C, will benefit water resources and **reduce water stress** induced by climate change.⁶

At least **600 million people depend** to some degree **on aquatic food systems** for a living. Aquatic food systems are crucial for nutrition and food security.¹³

17% of food available to consumers worldwide **is thrown away** each year, **wasting** precious **water** used to produce it.⁴



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Take action

Governments

- **Prioritize water in policies and planning** across sectors, keeping in mind it has social, economic and environmental impacts. This includes creating incentives for farmers and businesses to use water sustainably.
- **Know your water challenges.** Use available data tools to learn about water accounting and water productivity in your country and organize tenure assessments to understand how water rights are distributed.
- **Build National Water Roadmaps** and strategies that consider needs of agriculture and all other sectors, through country-led participatory dialogues.
- **Invest in water efficiency** by upgrading infrastructure such as irrigation systems.
- **Manage water resources in an integrated way** that takes into account all uses from fisheries to forestry, agriculture and other sectors. This includes the integrated management of water and soil.

- **Increase resilience and social protection systems** by expanding cash transfer programmes, in-kind assistance and subsidies, so the most vulnerable have access to water and can withstand the impacts of extreme weather events.
- **Engage in the Global Dialogue on Water Tenure** to shape principles for responsible governance of water resources.

Researchers, civil society & businesses

- **Foster innovation.**
- **Inform water and agriculture policies** and advise decision-making processes.
- **Share knowledge,** data and skills.
- **Campaign** for change.

- **Advocate for accountability and inclusion** in decision-making.
- Find innovative ways to **produce goods with less water**.
- **Understand where your water comes from** and where it goes.
- **Cut down pollution** in your business. This includes reducing toxic chemicals and improving wastewater treatment and reuse.

Farmers

- Use and **dispose pesticides** and **fertilizers correctly**.
- **Manage water more efficiently**, starting with a water audit and using irrigation advisory services to see where you could save water. Also check for leaks regularly.
- **Adopt sustainable and climate-smart agricultural practices** that get more out of the water you use.

- **Share water-gathering duties equally** between men and women, boys and girls, so all have time for other activities, including school.

All of us

- **Choose fresh and seasonal fruits and vegetables** – they usually take less water to produce.
- **Reduce your food waste**. It means less water goes to waste
- **Save water**. This includes using less energy, since much of it is generated using water.
- **Shop sustainably**. This includes eco-label fish but also fibres like cotton, which require less water and release fewer micro plastics into the environment than synthetic fabrics.
- **Don't pollute water**, and take part in clean ups if you can.

Notes

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16 October 2023

World Food Day

Collective action across over 150 countries worldwide is what makes World Food Day one of the most celebrated days in the UN calendar. Hundreds of events and outreach activities bring together governments, businesses, civil society organizations, the media, and the public, including many young people. They promote worldwide awareness of hunger and spark action for the future of food, people and the planet.

#WorldFoodDay 2023 shines a spotlight on water as the foundation for life and food. The campaign raises awareness worldwide about the importance of managing water wisely, because the availability of this precious resource is threatened by rapid population growth, urbanization, economic development, and climate change. It's time to work together and create a better, more sustainable future for all.

Make **#WorldFoodDay** YOUR day. Join the call by organizing an event or activity and show how you are taking action.



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