



World Food Programme

SAVING LIVES
CHANGING LIVES

Water for Food Security

WFP's contribution to the water sector

Water and food security are inextricably linked.

Water quantity, quality, and availability have direct impacts on all the dimensions of food security:

- Limited water availability affects food production and access.
- Extreme events such as floods can affect access to food by cutting off access to markets, while droughts affect food production impacting the stability of food supplies.
- Unsafe water and inadequate sanitation affect food utilization by increasing the incidence of waterborne diseases, a major cause of malnutrition.
- Lack of nearby water sources reduces the time available for work or education, impacting livelihoods.
- In many contexts, even if water is accessible, it might not be affordable and expenditure on water might crowd out spending on food.

Water access disproportionately affects

women and girls, who spend 200 million hours daily collecting water globally, hindering education and productivity. Inadequate water and sanitation facilities in schools contribute to absenteeism and dropout rates, particularly among girls, perpetuating negative consequences like child marriage. Nearly half of the world's schools lack proper handwashing facilities, hampering hygiene and learning.

Water is a crucial element in both humanitarian and development agendas.

Addressing water access and quality issues lies at the core of responding to emergencies and tackling some of the root causes of current food security challenges.

Water related shocks, such as droughts and floods, constitute three quarters of all recent disasters, often triggering a humanitarian response.

July 2024

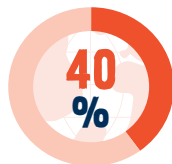
About 70 percent of the world’s food-insecure live in arid or water stressed regions. In most food insecure contexts, a high percentage of the population works in agriculture, where food production is typically rainfed. Most of the rest live in areas with an abundance of water but where its quality and access are often compromised.

Tackling the underlying causes of food insecurity and building resilience means addressing livelihood vulnerabilities, including access to water for domestic and productive uses.

Mismanaged water resources can exacerbate tensions and conflicts between state actors, farmers and pastoralists, refugees and host communities, different communities and upstream and downstream sections of a watershed.



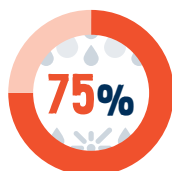
annually die from diseases linked to unsafe water, sanitation and poor hygiene
(United Nations, 2022)



of the world’s land is already degraded, affecting water availability, livelihoods and food security *(FAO 2024)*

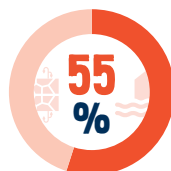


live on drylands vulnerable to desertification, which could displace an estimated 50M PEOPLE BY 2030
(United Nations, 2022)



of recent disasters are water-related, causing nearly US\$ 700B in economic damage over the past 20 years *(UN-Water 2020)*

In Africa, droughts and floods comprised



of natural hazards over the last two decades (2002-2021)

Since 2000, droughts increased



while flood-related disasters rose

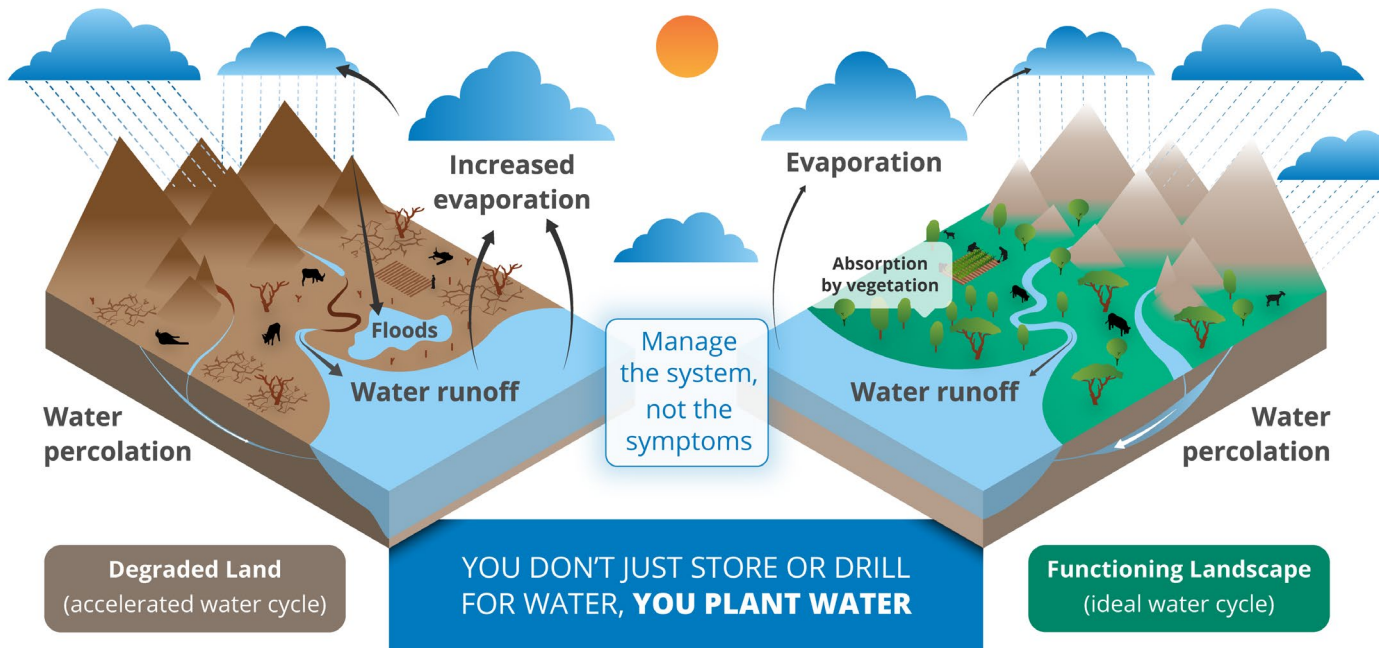


(WMO 2021), necessitating urgent adaptation investments.

The global environmental crisis, driven by land degradation and deforestation, **is disrupting local water cycles, leading to increased droughts and floods. Climate change exacerbates these challenges**, altering global and local hydrological cycles and increasing the frequency of water-related hazards. The frequency of water-related hazards has increased dramatically in the past 20 years.

Climate and ecosystem crises are intertwined, with climate change accelerating land degradation. At the same time, land degradation accelerates the release of carbon from the soils to the atmosphere, thus accelerating climate change. **Land and ecosystem restoration are crucial for addressing adaptation, water, and food insecurity, while also mitigating climate change by increasing carbon storage in soils and vegetation.**

RESTORING THE HYDROLOGICAL CYCLE



WFP AND WATER

WFP's Strategic Plan (2022-2025) recognises the importance of tackling water and sanitation issues to achieve Zero Hunger.

The Strategic Plan stresses how soil and water conservation, combined with water harvesting in asset creation programmes constitute one of WFP's core means of contributing to food security while restoring landscapes and ecosystems. The importance of partnerships when working on cross-cutting issues related to water and sanitation in asset creation activities, nutrition and school-based programmes is also highlighted.

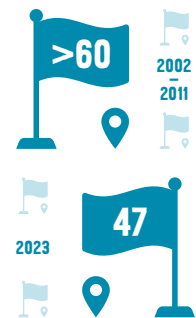
The importance of water management is referenced as well in several WFP Policies including Disaster Risk Reduction and Management, Resilience, Climate Change, Nutrition, Environment and School Feeding.

WFP operates in areas with severely impaired access to sanitation and water, and serves households and communities in arid and semi-arid regions, facing water scarcity and water-related shocks, which exacerbate food insecurity. Improving water availability and access is crucial for achieving Zero Hunger,

especially amid increasing pressure on water resources due to population growth and climate change-induced extreme events.

WFP's involvement in water-related activities has been significant over the years:

- Between **2002** and **2011**, more than a third of all WFP projects, across **more than 60 countries** involved water-related activities.
- In **2023**, **47 Country Offices** have implemented water-related activities.



WFP's interventions are multidisciplinary, context-specific, and implemented through strong participatory approaches and in close collaboration with governments, UN agencies and NGO partners.

Asset creation and livelihoods activities through Food Assistance for Assets (FFA) have historically represented the backbone of water-related programmes carried out by WFP. These activities, often facilitated through food, cash, or voucher transfers, increasingly

require the involvement of qualified engineering staff from WFP, government or cooperating partners.

In 2023, WFP's asset creation activities benefitted 7.9 million people in fragile contexts through a wide array of interventions revolving around water, such as water harvesting, soil conservation, land rehabilitation applying agroecology principles, the creation and rehabilitation of

community gardens and irrigation systems, flood protections, and the development of water points in communities.

By restoring landscapes and ecosystems and bolstering water access and management, WFP and partners enhance food security and resilience building, improve communities capacities to adapt to climate change, and even contribute to global mitigation efforts.

WFP WATER-RELATED ACTIVITIES IN 2023



376,505 hectares of *land rehabilitated or benefiting from irrigation infrastructures*



4,187 hectares of *land reforested*



4,120 kilometers of *irrigation canals constructed or rehabilitated*



10,574 kilometers of *drainage canals and flood protection dikes built or rehabilitated*



66 *bridges constructed or repaired*



12,378 *water points (ponds, shallow wells, weirs, dams) constructed or rehabilitated*



270 *culverts and drainage constructed or rehabilitated*



4,908 hectares of *community gardens and orchards established or rehabilitated* and **111,849** *household and school gardens established or rehabilitated*



7,651 *community infrastructures established or rehabilitated*

Research on WFP's asset creation interventions related to water management across Bangladesh, Ethiopia, and Kenya highlighted increased water availability, reduced runoff and soil erosion, and improved management outcomes. These interventions have led to expanded agricultural areas, enhanced crop yields, improved livestock health and productivity, and various livelihood enhancements, including reduced water collection burden, enhanced hygiene, increased income, narrowed food gaps, and improved nutrition ([ODI research, 2017](#)).

School-based programmes often promote water management activities to enhance food security and alleviate challenges in accessing water and sanitation facilities for children. These initiatives are typically conducted in collaboration with governments, UN agencies (particularly UNICEF), NGOs, and other partners. WFP integrates nutrition interventions with training on safe water access and sanitation, actively advocating for improved water access through infrastructure development or service delivery in partnership with local or international entities.



In response to rising water-related disasters, WFP provides emergency food and nutrition aid, increasingly employing anticipatory action systems to mitigate slow and rapid onset disasters. Climate risk insurance offers timely assistance post-catastrophic events, with **microlevel insurance schemes, particularly focusing on drought**, offering additional support to farmers and pastoralists.

PRINCIPLES OF WFP'S WATER MANAGEMENT ACTIVITIES

Water flows across landscapes, connecting the highest mountains with plains, deltas, seas and oceans. Water creates bonds across communities and must be respected, shared and managed efficiently. WFP's focus on food and nutrition security is heavily intertwined with water security, necessitating a systemic, multi-sectoral approach. Several principles guide WFP's water management initiatives:

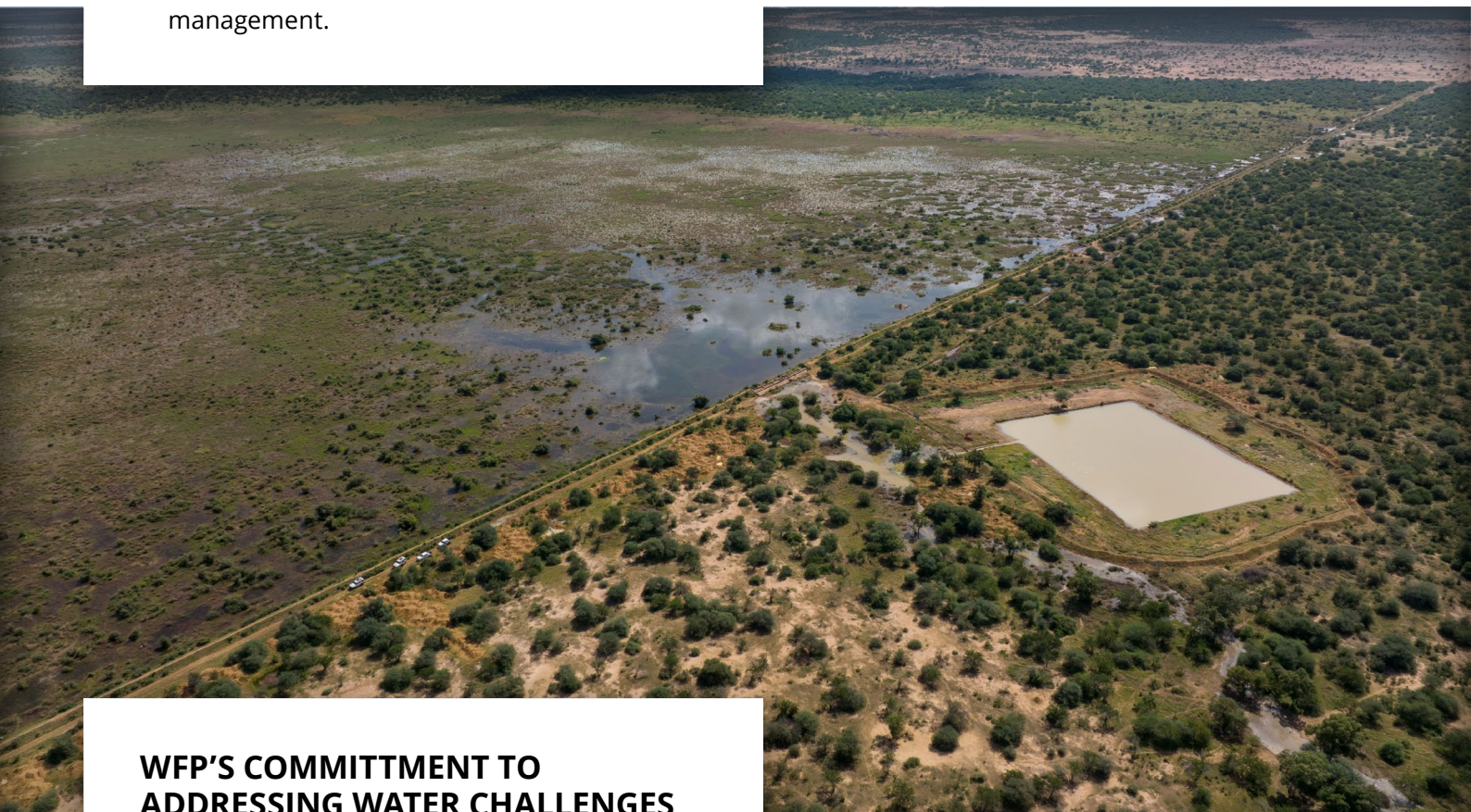
- **Working at the nexus:** While WFP responds to emergencies, the organisation aims to address their root causes, together with many operational partners. Restoring damaged

infrastructure, land rehabilitation and natural resource management activities are usually the first step in addressing such issues across the fragile contexts where WFP operates, as part of a multi-year approach.

- **Importance of partnerships:** Given the multi-sectoral nature of water and the complex technical assessments and requirements needed to make it available, manage and protect it, multiple actors and specialised partnerships are required. WFP can be a catalyst for water action through its food assistance and outreach, while different actors can deliver complementary technical packages and equipment, provide in-depth assessments on water availability and governance, provide domestic or public water supplies including in schools that WFP supports through its school-based programmes.
- **Contextual understanding:** Water management starts at the local level and is influenced by various factors such as topography, climate and livelihood activities. In-depth contextual assessments are crucial before initiating water-related interventions.

- **People-centered approach:** Successful water management, maintenance and resource sustainability rely on robust regulations (local customs, land rights, water rights etc.) and institutions. Participatory and inclusive processes are essential to assess water needs and requirements, find appropriate management solutions and minimise conflict.
- **Choosing appropriate intervention units:** Tailoring intervention areas based on contextual analysis, including sub-watershed units and community-based approaches, is essential for holistic water resource management.

- **Layering and sequencing interventions:** Water management strategies require clustering multiple activities to ensure sustainable outcomes. Technological solutions, such as borehole drilling and water pumps, must be integrated with broader landscape rehabilitation efforts. At the same time, once water access and supply have improved, opportunities arise for integrated interventions to support production, dietary diversification and access to markets.



WFP'S COMMITMENT TO ADDRESSING WATER CHALLENGES

WFP responds to humanitarian crises caused by water-related shocks. By working in partnerships, it often eases the immediate water challenges of school children and communities. Finally, WFP aims to address the water-related impacts to food security and livelihoods by restoring degraded environments and ecosystem functions. Through integrated resilience building and ecosystems-based climate adaptation programmes, WFP can replenish local productive potentials, benefiting soils, water resources and food systems.

- **WFP adopts a comprehensive approach to water management, rejecting simplistic solutions.** Recognising water's limited supply, sustainable development requires mechanisms for recharge and optimised usage. In arid regions, water sources rely on ecosystem restoration and sustainable water harvesting methods. This involves implementing strategies to capture, retain, and channel rainfall effectively, fostering a "sponging effect" through land restoration.

Consequently, water can infiltrate underground aquifers, facilitating sustainable extraction and efficient utilization. Conversely, in flood-prone areas WFP prioritizes flood protection, runoff control, and safe water disposal and utilization measures.

- **WFP focuses on people and community-driven approaches to water**, recognizing the disproportionate impact of water challenges on women and children, particularly girls. Access to adequate water quantities is crucial for achieving Zero Hunger, especially for vulnerable communities in fragile contexts.
- **After responding to humanitarian crises, WFP works on medium to long term integrated water solutions** together with communities, governments and

other partners across the humanitarian/development nexus. This includes rehabilitating land, increasing water availability through harvesting techniques and small-scale storage, facilitating climate adaptation efforts, providing training and access to water for various purposes, and promoting integrated agricultural value chains, particularly benefiting women and marginalized groups. WFP also promotes climate analyses, forecasting, early response, anticipatory actions and risk management systems at national and local levels.

- **WFP and its Regional Bureaux and Country Offices support governments and partners** in implementing water-related actions, tailoring approaches to specific contexts and government plans.





CLIMATE AND RESILIENCE SERVICE

World Food Programme

Via Cesare Giulio Viola 68/70,
00148 Rome, Italy - T +39 06 65131
wfp.org

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