

Addressing water scarcity is essential for global food security

The combined effects of water scarcity and contamination threaten the sustainability of global food production systems. In the US, food farming is responsible for 38 percent of water contamination, underscoring the impact of agricultural practices on water quality.

At a glance:

70%

Agriculture accounts for 70% of global freshwater water usage.
[\(Source\)](#)

80%

Projections indicate that by 2050, more than 80% of the world's croplands will face increased water scarcity.
[\(Source\)](#)

\$200 billion

Upstream water infrastructure costs are anticipated to quadruple by 2030, exceeding \$200 billion per year worldwide in investments to ensure reliable water access for agricultural activities.
[\(Source\)](#)

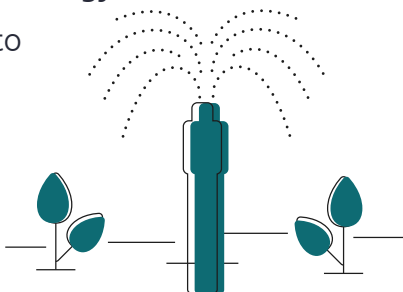
Addressing these issues involves engaging key stakeholders such as farmers, producers, agribusinesses including seed and fertilizer producers, and water treatment facilities. Agricultural communities need to develop more efficient irrigation practices, reduce water pollution, and invest in research on drought-resistant crops.

Irrigation techniques reduce water waste

In the fight against water scarcity in agriculture, smarter irrigation is a compelling solution. Traditional flood irrigation methods are only 40 to 50 percent efficient, meaning that up to half of the water used [does not benefit crops](#) and a significant portion of this precious resource is wasted. However, efficient irrigation techniques, by delivering water directly to plant roots, can dramatically reduce this waste.

The key to success lies in a three-pronged approach:

- Deploying advanced irrigation technology
- Providing education and training to farmers on efficient practices
- Monitoring water usage.



Sustainability in action

Bowles Farming Company, a family-run farming business in Los Banos, California,

80%

installed drip irrigation systems across approximately 80 percent of its farmland and

[achieved water savings](#) ranging from 30 to 50 percent, while improving overall crop productivity.

30-40%

The company uses solar energy systems to offset energy demands of the drip irrigation system. This initiative illustrates the potential impact and benefits of adopting innovative irrigation practices to address water scarcity challenges in agriculture.

Water recycling alleviates water scarcity

As climate change intensifies, arid and semi-arid regions face growing challenges in securing sufficient water for agriculture. Reusing wastewater for irrigation offers a promising solution. By supplementing traditional water supplies, recycling water can mitigate water scarcity. Strong partnerships between farmers, regulators, and ag-tech companies are necessary to develop cost-effective treatment technologies that meet stringent water quality standards.



Sustainability in action

Pure Water Monterey, a water purification company in Monterey, California, demonstrates the potential of water recycling. By transforming used water into a drought-resistant supply for groundwater replenishment

the company [provides irrigation water](#) for a population of 104,000

104,000

22%

and currently fulfills 22 percent of the region's water needs.

Climate-resistant agriculture futureproofs farmers' crops

Developing climate-resilient crops is a promising solution to ease the adverse effects of climate change on agriculture, as temperature fluctuations, drought, and salinity are a threat. By engineering varieties that can withstand these climate fluctuations, scientists can help farmers adapt their farming operations. Farmers can also help by supporting continued research and development efforts and innovation partnerships between universities, research institutions, and agribusinesses.



Sustainability in action

The Midwest Row Crop Collaborative (MRCC) works with farmers, agribusinesses, and other key partners to help farmers expand agricultural solutions that protect air, water, and soil quality.

\$1.6 million

The project's \$1.6 million investment in 2022 to improve farmer engagement with regenerative practices

[resulted in a 23 percent net reduction](#) in CO₂ emissions compared to conventional methods.

23%

These advancements offer a path towards a more sustainable and climate-resilient agricultural future.

[Click here](#) to learn about our ongoing partnership with Venture Lab (powered by the Wharton School), and our work on advancing sustainable technologies. Ready to achieve your sustainability goals? Contact us today.

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