



USAID
FROM THE AMERICAN PEOPLE

Improving Water Productivity



Drip irrigation improves water use efficiency in Middle East olive orchards.



Upgrading open irrigation manages water efficiency in the Caucasus.

CHALLENGES

Water has always been the lifeblood of human productive activity, proving essential for sectors ranging from agriculture to heavy industry. Today, however, an expanding global economy, urbanization, and growing populations are all raising the demand for this vital resource. Water scarcity can easily lead to local and regional tensions, and undermine development in all sectors—from agriculture, to economic growth, to human health.

Unless major changes to the way we manage water resources are effected, these tensions will only intensify. By 2025, for example, household and industrial water use is projected to increase by at least 50 percent¹. At the same time, growing populations will require more water for food production, and without wider adoption of more water-efficient farming practices, the amount of water that will be required to meet global food needs will nearly double by 2050.

Increasing the supply of freshwater is not always technically or economically feasible. The alternative is to increase the efficiency—or productivity—by which water is used. This can mean more “crop per drop” in the agriculture, reduced leakages in the distribution network for domestic water supply, or simply greater conservation and wise use of the water on-hand. Ways to increase water productivity and efficiency should therefore be considered as a first option in any strategy to meet overall demand.

USAID RESPONSE

Averting or mitigating the global water crisis requires meeting two great challenges:

- Improving water use efficiency to ensure that the quantity of water reserves remain adequate for humanity’s many competing demands; and
- Reducing pollution and other threats to water quality, to ensure that the water supplies we *do* have continue to be usable.

The U.S. Agency for International Development (USAID) employs the following approaches to help developing countries meet these goals:

¹ <http://www.ifpri.org/pubs/fpr/fprwater2025.pdf>



Sri Lankan textile industry, largest exporters and biggest source of industrial wastewater, will be subject to a new pollution fee system.



Technicians test a meter in the pilot district meter area as part of Bac Ninh's program to reduce water losses and improve the water utility's operations.

- **Improve water use efficiency in agriculture.** On average, agriculture currently uses approximately 70 percent of all water. USAID supports efforts to increase water efficiency in this sector by improving irrigation and pumping systems, promoting new farming techniques and the use of environmentally appropriate crops, working with research institutions to develop improved aquaculture production technologies and systems, reusing treated wastewater for agriculture, and strengthening the institutions that establish and enforce water pricing and rights.
- **Reduce water pollution by industry.** To reduce water pollution by industry, USAID is engaging in several key areas, including:
 - Establishing clear and appropriate rules for private sector productive water use; these include “polluter pays” principles;
 - Strengthening the role of institutions tasked with enforcing regulations and protecting water quality; and,
 - Promoting the adoption of cleaner production processes by industries.
- **Increase water use efficiency in cities.** More than half of the world’s population now lives in cities, and as urban populations continue to grow, they are emerging as a growing front in the battle to avert a global water crisis. USAID is assisting cities increase their water use efficiency by helping them reduce leakage and implement demand-side management programs, craft regulations and ordinances, and design communications/outreach programs to promote water use efficiency and conservation by households and businesses.
- **Help countries manage hydrologic variability and adapt to climate change.** In countries facing greater risks of drought or long-term drier climates, USAID promotes adaptation to drier climates by expanding efforts in water harvesting and small-holder water capture and distribution systems.

FEATURED PROJECTS AND PUBLICATIONS

- In Chad, USAID is assisting to increase agricultural output through more efficient use of water resources. More efficient capture of seasonal low flow waters is helping to revive the agricultural and livestock sector.
- In Egypt, the focus is on the selection of crops that are both high-value and drought resistant. Coupled with the reform of water management institutions, these efforts will determine in large part whether the sector can contribute to sustainable growth and poverty reduction in rural areas.
- In 2004, USAID collaborated with the U.S. Environmental Protection Agency to update/revise the *Guidelines for Water Reuse*. The book is an essential reference tool for technical personnel responsible for the design and implementation of water reuse programs of almost any kind.

For more information, please visit:

www.usaid.gov/our_work/cross-cutting_programs/water/