



## Oxfam's work with water



**Oxfam**  
America

# Water: The link to poverty

At a UN General Assembly in July 2010, 122 nations declared access to clean water and sanitation a human right.

Water, in one way or another, touches on nearly every aspect of Oxfam America's work—our humanitarian responses, our campaigns, and our long-term initiatives to help families improve their incomes, reduce their vulnerability to disasters, and defend their rights.

The reason? Access to water is deeply linked with human well-being. But the failure of political and economic systems have left 894 million of us without access to the basic clean supply we need daily for drinking, cooking, and washing, and 2.5 billion without basic sanitation. The consequences of these inequalities are staggering: diarrhea, often caused by dirty water and poor sanitation, is the second leading killer of children under the age of five.

It's poor people, too, who suffer most in the clutch of climate change as the rainfall they depend on for their fields and pastureland becomes increasingly erratic. When drought hits—and climate change is making drought more frequent and severe—crops and animals die, plunging millions of people into crisis. Water scarcity can be hardest on women and girls, who often have to walk for hours each day—sometimes facing the threat of assault—to lug water home for their families. And at the other end of the spectrum is catastrophic abundance: the floods that wipe out the homes and livelihoods of countless

families living the only way they can afford—precariously—on steep slopes, flood plains, and low-lying coastal areas.

For Oxfam, tackling the root causes of poverty often means addressing these water-related injustices and the power dynamics behind them. It means challenging international oil, gas, and mining companies to respect the right of communities to know what impact water-intensive extractive industries will have on their land and water supplies—and to decide if they want those projects. It means working with people to find ways to get water to their fields and closer to their homes so they can count on robust harvests and assure the health of their families. And it means helping the most vulnerable build their resilience in the face of disaster.

All of this requires thoughtful investment and a willingness to listen keenly to what people need so that solutions work for them, in their environments, with them in control.

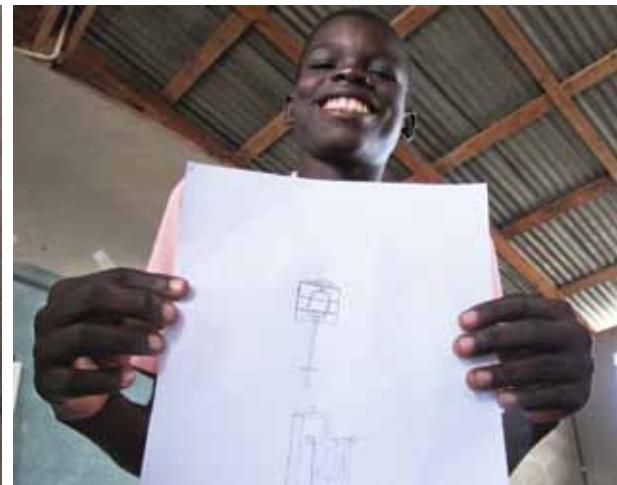
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Water, sanitation, stability, prosperity, and peace: these goals are closely, inextricably linked. Progress can be ours if we work together.

—UN Secretary General Ban Ki-moon

## Every drop counts

- Water covers almost 70 percent of our planet, but only 2.5 percent is fresh and only 1 percent of that can be accessed easily by the seven billion people who need it to stay alive.
- The UN estimates that each of us needs between 5–13 gallons of clean water a day for all our drinking, cleaning, and cooking needs.
- Consumption amounts vary, depending on where you live. The daily per capita use of water in North America and Japan is 92.5 gallons; in Europe it's 52.8 gallons; and in sub-Saharan Africa it's between 2.6 and 5.3 gallons.
- Approximately 2.5 billion people live without basic sanitation, and each day more than two million tons of human waste winds up in rivers and streams.
- Industrial waste is a major source of pollution in developing countries, where 70 percent of it is dumped untreated into local waters.
- Agriculture accounts for 70 percent of global fresh water use.
- Basic foods have hidden water costs. To produce a pound of beef requires 1,799 gallons of water, a pound of pork requires 576 gallons, a gallon of milk requires 880 gallons of water, a pound of wheat requires 132 gallons of water, and a pound of corn requires 108 gallons.
- 60 percent of the human body is made up of water.
- “At any one time, close to half of all people in developing countries are suffering from health problems caused by poor water and sanitation. Together, unclean water and poor sanitation are the world's second biggest killers of children.”—UN Secretary General Ban Ki-moon, addressing the General Assembly plenary meeting on the human right to water and sanitation on July 27, 2011.



## Better water, better health

Around the world, dirty water and poor sanitation lead to one of the major causes of illness and death: diarrhea. In sub-Saharan Africa, treating the disease accounts for 12 percent of the region's health budget, according to the UN, and on any given day people suffering from fecal-related diseases fill more than half the hospital beds in that region. When major health crises related to water confront Oxfam, we look for innovative, sustainable solutions.

### Healthy wells in El Salvador

Along El Salvador's Pacific Coast, poor communities are becoming increasingly vulnerable to climate change as river flooding intensifies: The flooding contaminates the hand-dug wells many families rely on for drinking, cooking, and daily household use. Illness inevitably follows.

To help tackle the problem, Oxfam is working with a local partner, PROVIDA, to build a series of "healthy wells" and sealed composting latrines in 14 communities in Zacatecoluca. The project is also training local water committees and a host of community leaders on water management and hygiene.

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With access to a healthy well they can at least know that in the next flood, they will have a safe source of water for their families and the good health that comes along with it.

—Karina Copen, an Oxfam humanitarian program officer

The wells—tested by Oxfam and PROVIDA in an earlier project when they built five of them—are designed with a filter to prevent contamination from seeping through underground. They're capped

to ensure their cleanliness and outfitted with pumps that send the water to tanks where it can be chlorinated and stored for people to tap when they need it.

"Kids are getting sick less, families are healthier," said Santos Efrain Coto, one of the local leaders in El Recuerdo, where a tank on the school grounds now stores water from one of the healthy wells, making it available to the whole community. "When they drank contaminated water they got diarrhea and parasites."

### In Haiti, tackling cholera with chlorine

Hundreds of thousands of people have contracted cholera since the deadly waterborne disease broke out in Haiti in October 2010, and more than 6,600 people have died. In remote communities, where the risk of death from the disease is heightened by rugged terrain, Oxfam is making water safer.

In some of the rural villages of Nippes, where town water systems don't exist, women and children draw drinking water directly from rivers that are contaminated with infectious bacteria. In 30 of these communities, Oxfam has been installing devices known locally as *bwats a klowoks*. They are simple dispensers that with the



turn of a lever release measured doses of chlorine solution. At each gathering point there is a pair of dispensers—one designed to disinfect a gallon jug of water, the other for five-gallon buckets.

"It's really important to use treated water to avoid microbes and disease," says Saintalia Denis, who lives in a house near one of the rivers. "After putting in the *bwat a klowoks*, Oxfam explained to us how to protect ourselves from cholera. Now, after coming from the latrine I wash my hands. Before eating I wash my hands. And I drink treated water."

Watch a video about water in El Salvador: [oxfamamerica.org/healthywells](http://oxfamamerica.org/healthywells).

Read about protecting Haiti from cholera: [oxfamamerica.org/fightcholera](http://oxfamamerica.org/fightcholera).



## Managing water for improved production in Ethiopia

Despite recurrent drought, Ethiopia has abundant water resources, both underground and in its 12 river basins. Yet most farmers depend on rainfall only to feed their crops: of the estimated 9.1 million acres that could be irrigated, only about 5 percent has been developed for that. Herders, too, struggle with erratic rainfall that is making both water holes and pastureland less reliable for their livestock. As a consequence, Ethiopia remains dependent on foreign humanitarian assistance to feed more than eight million people every year.

Oxfam's 10-year plan targeting the most water-stressed areas in three regions—Oromia, Amhara, and Tigray—aims to help small farmers and herders—especially women—gain better access to water resources that they can sustainably use and manage on their own. The key is co-investment in projects among villagers, governments, and donors, and a new social contract that fosters entrepreneurship.

### Backyard irrigation: Small investment, big changes

Food is often in short supply in the Ethiopian village of Kentery, but with the help of a bicycle-wheel pump and water from their backyard well, Bertukan Girma and her husband, Tufa Midhakso, are transforming the small plot of land around their home into an Eden of possibilities. They have been growing onion seedlings, selling them to local farmers, and using the proceeds to steadily build a better life for their family. With their earnings they have constructed a new house with a metal roof and bought a milking cow—the first they have ever owned and an important investment and savings mechanism. And, as important, Girma has been able to work at this backyard enterprise while also caring for the couple's two children, significantly adding to the household income her husband earns as a day laborer.

The couple is part of a pilot project sponsored by Oxfam and its local partner, Sustainable Environment and Development Action, to promote backyard irrigation. The idea is to show villagers who don't have access to any land except the small yards around their homes how to transform those plots into income-producing enterprises. By helping some families demonstrate what's possible when they install a hand-operated pump, Oxfam hopes to inspire the government

and other small local farmers to begin making their own investments in this simple, life-changing device.

### Gravity fed and community controlled

A spring in the hills of Birkitu has long served as a source of life in this southern Ethiopia community. But villagers used to have to walk hours to reach it, and sometimes they got sick drinking its water, as animals used the same source and contaminated the area with their waste.



**Above:** Bertukan Girma, Tufa Midhakso, and their daughter, Ayantu Tufa, together tend a thriving onion patch with water pulled from their well with a new hand-cranked pump. **Top left:** Budha Magarsa harvests corn from a plot irrigated with water from the Gurracho River, which flows near her home in Ethiopia. **Top right:** With community taps nearby, the people of Birkitu in southern Ethiopia no longer have to walk a great distance for their water.  
*All images: Eva-Lotta Jansson / Oxfam America*

Today, the spring water flows through a network of pipes nearly eight miles long, serving neighborhood taps and some 3,870 people. A system of irrigation channels snakes through the fields of about 140 households. And 35,000 head of livestock now drink from a series of concrete troughs drawing from water stored in a series of large, rectangular ponds.

Careful attention to community needs allowed Oxfam and its local partner, Action for Development, to help villagers develop the drinking water pipeline. It was designed with the understanding that a reliable water supply depends not only on infrastructure—on channels, pipes, valves, and cement—but on simplicity and well-known traditional management practices. Instead of using pumps that require expensive fuel and parts, the system relies on teams of men to scoop water from the ponds to fill the drinking troughs for the animals. The method is as old as the herding culture itself.

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Irrigation makes possible for many people for the first time ever the production of an agricultural surplus. Irrigation stimulates the development of a cash economy. Villages with irrigation often use the profits from farming to fund household improvements, schools and education costs, and medicines. And, villages producing surpluses often garner the attention of the government, which may improve access roads and power and build better schools and health facilities in an attempt to integrate those food surplus areas into the national economy.

—John Ambler, Oxfam America vice president, strategy



Morkata Danbi scoops water from a storage pond into a concrete trough from which animals can drink in southern Ethiopia. The water comes from a distant spring through a gravity-fed system of pipes and holding tanks. Eva-Lotta Jansson / Oxfam America

Self-governance is also an important component of the project. An *abbaa herregaa*—a community-elected water master—ensures the equitable distribution of water for both animals and people.

acres of farmland, bringing reliable harvests and the prospect of better lives to Magarsa and Saworo and more than 400 other farmers and their families.

Operating entirely by gravity, the Ejersa small-scale irrigation project—a network of concrete-lined canals and earthen channels—is allowing farmers to cultivate their fields year-round, whether it rains or not, and to grow food not only to feed their families, but to sell. Farmers have also received training in new agronomic techniques in crop diversification. A neighborhood nursery, managed by the farmer's cooperative, grows a range of vegetables, demonstrating to local farmers what's possible for their own fields.

For Magarsa and Saworo, irrigation has brought their family a new sense of security, a feeling that with hard work, their dreams stand a chance of materializing. “I have the confidence hereafter I can keep my children in school,” said Saworo. With irrigation promising more bountiful harvests, funding his children’s education may not require selling valuable assets: their crops may be profitable enough to cover school fees.



Gemadu Milkeso tends the plants at a nursery that helps local farmers learn about new crops and growing methods in Ethiopia's West Arsi Zone. Eva-Lotta Jansson / Oxfam America

At the troughs, for instance, the *abbaa herregaa* collects the water fees for families and organizes the times at which they can bring their livestock to drink.

“These traditional systems are still intact and are playing key roles in the efficient and sustainable use of water resources,” said Tibebu Koji, Oxfam America’s water program coordinator in Ethiopia.

#### Tapping a river resource

In Ethiopia's West Arsi Zone, the Gurracho River tumbles over boulders just below the home of Budha Magarsa and Bati Saworo—for years teasing them and their neighbors with the thought of harnessing it for irrigation. Now, with the help of Oxfam and its partner, the Rift Valley Children and Women Development Organization, the river waters nearly 500

Read more about backyard irrigation in OXFAMExchange (page 9)  
[oxfamamerica.org/exchangefall2011](http://oxfamamerica.org/exchangefall2011).

Watch a video on water in Birkitu:  
[oxfamamerica.org/springoflife](http://oxfamamerica.org/springoflife).

Learn more about irrigation and the Gurracho River: [oxfamamerica.org/waterandhope](http://oxfamamerica.org/waterandhope).



## Water rights and advocacy

Threats to the world's fresh water supply are numerous, and poor communities unsure of their rights face the biggest threats of all. Among the threats are industrial developments, like mining operations, that not only use vast amounts of water in their extraction and refinement processes but can also pollute nearby sources. We work with communities to help them voice their concerns to governments and corporations about these operations and join forces with others to strengthen their ability to bring about change.

### Fighting cyanide spills in Ghana

In Ghana, questioning the importance of mining as part of the economy used to be akin to threatening national security. But lately, through the work of organizations like Wacam, a human rights and environmental group that Oxfam supports, that attitude has started to change. Ghanians are becoming more aware of the severe costs imposed by mining, including its effect on the water they depend on. Wacam is building a network of activists—many of them women—and training them in Ghana's Minerals and Mining Act. Among the things they learn is how to monitor water for pollution by cyanide, which is used to separate gold from rocks.

"Out of 400 water bodies tested, 250 were polluted," said Hannah Owusu-Koranteng, one of Wacam's founders.

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Wacam has taught me about the basic rights of people, their rights to own property, to information, to live as a human being.

—Joanna Manu, an activist with Wacam, Oxfam's partner in Ghana

Informed communities now know what to do when they find dead fish in their rivers and streams: they collect samples to verify the presence of cyanide, contact

the Environmental Protection Agency, and negotiate compensation from the company for the spill.

To help ensure that Ghanians' rights aren't further eroded as the country begins to develop its oil reserves, Oxfam is working with them on a campaign to promote transparent management of the new revenue—to make sure the money goes to vital needs, like health and education. Innovative use of technology helped pass a landmark Petroleum Revenue Management Act in 2011: text messages sent to more than 100,000 Ghanians promoted the transparency bill and helped build support for a petition sent to Ghana's parliament.

### Watching out for water in Guatemala

In the western highlands of Guatemala, Oxfam is working with indigenous Mayan people concerned about the social and environmental effects of the Marlin Mine, a large industrial gold mine in San Miguel Ixtahuacán. In 2010, a study supported by Oxfam and conducted by a nonprofit technical environmental organization, E-Tech International, recommended more aggressive management and monitoring of water sources. That same year, an environmental health study by experts from the University of Michigan, the University of Illinois, and Physicians for Human Rights found heavy metals in

rivers downstream from the tailings dam and called for ongoing monitoring.

The Guatemalan government initially agreed to suspend operations at the mine, a move that would help local communities who are suffering from damage to their livelihoods and from violence related to criticism of the mine. But the mine, which produces 300,000 ounces of gold a year, is still up and running. Oxfam has been collecting signatures on an electronic petition urging the government to suspend operations at the Marlin Mine and to investigate the human rights violations and environmental problems linked to the enterprise.

"Time and time again, indigenous communities have spoken without being heard. Guatemala is facing potentially irreparable land and water degradation in these areas and the concerns of these communities are not addressed," said Juliana Turqui, program officer for Oxfam America's extractive industries program in Central America. "The government must take a critical look at the benefits of mining in Guatemala versus the significant costs to communities that are eager to support their families and through traditional livelihoods like fishing and agriculture."

Read about Wacam's work with women: [oxfamamerica.org/ghanatraining](http://oxfamamerica.org/ghanatraining).

Watch the video, "Heart of our Mother Earth": [oxfamamerica.org/guatemalamining](http://oxfamamerica.org/guatemalamining).



## Reducing risks of water-related disasters

Preventing a disaster before it causes widespread damage is a lot more cost-effective than helping families recover once trouble has hit. It's particularly true when the problems relate to water and rain. Helping to reduce the risk of disaster is key in Oxfam's support for some of the world's poorest people—those who are most often in harm's way and suffer the most from its consequences.

### No rain? Not a complete disaster with weather insurance

With a host of partners, including some from the private sector, Oxfam America has launched an innovative program designed to equip poor farmers with a set of financial tools and land-management practices that will help them improve their long-term well-being. One of the initiative's main components is weather insurance designed to cover a variety of crops. It guarantees farmers a payout if poor rainfall ruins their harvests. A key innovation—and one of the reasons more than 13,000 farmers have purchased the insurance—is that those without cash can work on projects that strengthen communities in the face of climate change and pay for their premiums with this labor. Activities include things like planting trees and improving irrigation.

In November 2011, the program offered its first payout to 1,891 farmers in seven villages in Tigray in northern Ethiopia. Hit hard by drought, each of the farmers was slated to get a share of \$17,392 in payouts—money they could use to buy

seeds for the next harvest without having to sell off their assets.

In partnership with the World Food Programme, the Rural Resilience Initiative is now set to expand into Senegal and two other countries.

"The project is beyond giving emergency aid. It increases the confidence of farmers and encourages them to take risk to improve their productivity," said Gezachew Gebru, a representative of Ethiopia's Ministry of Agriculture.

### In Peru, planning for earthquakes

In Lima, Peru's capital, with more than 8.5 million residents, 60 percent of the population lives in marginal areas, where the soil is sandy and the slopes are unstable—conditions that make people particularly vulnerable if an earthquake hits the city. Oxfam has been working with its local partner, PREDES, to map key water and sanitation systems in the district of San Juan de Miraflores and develop models for what could happen to them in the event of an earthquake.

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What we want is for our grandchildren to have tranquility—for them not to live the anguish we have suffered through the years. It is very important to be prepared before, during, and after an emergency. That is what we work for.

—Mercedes Rivas, member of an environmental group that partners with Oxfam and is led by women in Aragon, El Salvador

The project has focused on analyzing the way the water system operates and on preparing for an intervention—if one should be needed. Oxfam and PREDES have worked with local people to increase their knowledge of prevention, focusing particularly on women and youths, whose participation in an emergency response would be crucial.

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Watch a video that explores solutions to food crises: [oxfamamerica.org/africaslastfamine](http://oxfamamerica.org/africaslastfamine).

**Top left:** Mulu-Birkan Mehari checks a backyard rain gauge in Tigray, Ethiopia, where some farmers are now buying weather insurance for their crops. *Eva-Lotta Jansson / Oxfam America* **Top right:** Children have fun racing through an alley that is now part of an evacuation route identified by a local civil protection committee to help neighborhood families reach safety during severe rainstorms in El Salvador. *Claudia Barrientos / Oxfam America*

**Opposite, top left:** Hanna Owusu-Koranteng is one of the founders of Wacam, a human rights and environmental group active in Ghana and an Oxfam partner. *Jeff Deutsch / Oxfam America* **Opposite, top right:** The Marlin Mine in Guatemala has raised serious concern among the Mayan people about the social and environmental effects of the enterprise. *Anna Fawcus / Oxfam America*



## Water in emergencies

During disasters—whether they occur suddenly, like earthquakes, slowly, like droughts, or are man-made, like conflicts—the water and sanitation systems that communities depend on often collapse or become enormously overtaxed. Repairs or expansions take time, time that people who need them to stay alive don't have. Without water, people can't last much beyond three days. That's why Oxfam focuses much of its emergency response on providing survivors with a safe supply. In extreme situations—where there is no water to be found—Oxfam will truck water in as a temporary solution. And as important, we offer a steady stream of public health education on how to keep water-borne diseases at bay, essential in crowded camp conditions or during times of water shortages.

### In Darfur: Water—and good hygiene—in a conflict zone

The rebellion that began in Sudan's arid western region of Darfur in 2003 has uprooted more than two million people. Many of them are still living in crowded camps for internally displaced people—including young children, born in the camps, who have known no other life. Oxfam America is working with local Sudanese partners and community members to provide more than 260,000 people in Darfur camps with water, sanitation, and hygiene programs. Our water engineers are helping to maintain a network of wells, pumps, tanks, pipes, and taps that deliver treated water to the settlements, and our sanitation and public health staffers are ensuring that camp residents have latrines, bathing

areas, soap, water cans, and access to the information they need to stay healthy under challenging conditions.

Our work in the camps near El Fasher in North Darfur is a good example. Every month a team of health workers—elected by the community and trained by Oxfam—fans out to take messages

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You cannot stop the water supply to the camps for one single day or else people will suffer. After one day, they will use up everything they've been able to store just for cooking and drinking. After two or three days, you can imagine what will happen.

—Yagoub Osman Mohamed, Oxfam humanitarian program officer, Sudan

about health and hygiene to thousands of residents. The workers go house to house, teaching newcomers about disease vectors, hand washing, and latrines, and they organize community-wide campaigns to clean everything from streets to latrines to household water jugs. “Previously, my children didn't wash their hands before they ate. They were often weak and not healthy,” said one mother, Maryam Gado. “Now, they wash their hands before eating. They don't suffer from diarrhea, and if they happen to get sick, it isn't something serious.”

Read about community health promoters in Darfur camps: [oxfamamerica.org/ahealthawakening](http://oxfamamerica.org/ahealthawakening).

**Top left:** Girls fill their families' water jugs at a hand pump in Kebkabiya, a town in North Darfur, Sudan, that now shelters many people displaced by conflict in the region. *Eva-Lotta Jansson / Oxfam America* **Top right:** Oxfam is working with local Sudanese partners and community members to provide clean water, sanitation, and hygiene programs to people living in camps in North and South Darfur. *Elizabeth Stevens / Oxfam America*

**Cover image:** Evans Garcon enjoys the water from a community tap set up with Oxfam's help in Cap Haitien, Haiti. *Abbie Trayler-Smith / Oxfam*

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## Working together to end poverty and injustice

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