The article focuses on the crisis facing the global water supply. The article reports that factors such as drought, mismanagement, and politics may affect who receives water, especially in developing countries. The article discusses problems facing nations in which the water crisis is most worrying, including pollution in rivers in China, lack of water for farmers in India, and water disputes in the West Bank.
Drought, pollution, mismanagement and politics have made water a precious commodity in much of the world.

Daily life in the developed world has depended so much, for so long, on clean water that it is sometimes easy to forget how precious a commodity water is. The average American citizen doesn't have to work for his water; he has only to turn on the tap. But in much of the rest of the world, it isn't that simple. More than a billion people worldwide lack clean water, most of them in developing countries. The least fortunate may devote whole days to finding some.

When they fail--and they fail more and more often now that rivers in Africa and Asia are slowly drying up after decades of mismanagement and climate change--they may turn to violence, fighting over the small amount that is left. Water has long been called the ultimate renewable resource. But as Fred Pearce writes in his book "When the Rivers Run Dry," if the world doesn't change, that saying may no longer apply.

Like the famines of the '80s, the global water crisis is far more than a straightforward issue of scarcity. Accidents of geography, forces of industry and the machinations of politics may all play a role in who gets water--just as warlords, as well as droughts, were responsible for starvation in Ethiopia. In many ways, the famines contributed to today's man-made droughts: the crops grown in the worldwide "green revolution" of the past three decades sated hunger but sapped water in the process. "As the globe gets more crowded," says Susan Cozzens, a policy professor at Georgia Tech who is working on water problems, "the old arrangements just don't work anymore."

There is still time for nonprofits and governments to fix things. "Chlorination, gravity-fed distribution systems, taps at every household, all these could make a difference," says John Kayser of Water for People, a nonprofit working in the developing world. Ecoconscious start-ups in the United States and Europe are increasingly offering new ways of purifying water, from high-tech (but inexpensive) ultraviolet filters to simple tactics such as filling clear bottles and letting the hot sun kill the bacteria inside.

But thus far, there has been no worldwide "blue revolution." More likely, says Pearce, we'll "only really start to worry about the water when it isn't there." Here are some flashpoints, regions where the future of water is most worrisome.

**China's Poisoned Water.** To look at the mighty Yangtze River, you might think China could not have a water crisis. The third longest river in the world, it funnels 8 million gallons into the East China Sea every second. The river drives the world's largest hydroelectric dam, the Three Gorges, and it is one of the backbones of the country's economy.
When you look more deeply into China's water supply, however, you'll see plenty to worry about. The government has long known that the Yangtze is polluted. In 2002, Beijing announced a $5 billion cleanup effort, but last year admitted that the river was still so burdened with agricultural and industrial waste that by 2011 it may be unable to sustain marine life, much less human life. An April report by the World Wildlife Fund and two Chinese agencies found that damage to the river's ecosystem is largely irreversible.

Travel farther north, especially near the country's other major water system, the Yellow River, and the picture is even bleaker. Since the 1980s, drought and overuse have diminished the river to a relative trickle. Most of the year, little to none of its water reaches the sea, says Pearce. What does still flow in the Yellow is often unsuitable for drinking, fishing, swimming or any other form of human use. Every day, the river absorbs 1 million tons of untreated sewage from the city of Xian alone.

Nowhere is China's pollution problem more visible than in the tiny "cancer villages" that dot the country's interior. Shangba, a town of 3,000, captured national attention a few years ago after tests found that heavy metals in its local river far exceeded government levels. Officials from a nearby state-owned mine--suspected of dumping those chemicals into the water--persuaded the government to pay for a new reservoir and water system built by locals. But other, smaller cancer villages are still struggling. In the southern hamlet of Liangqiao, rice grown by villagers with water from a local river has taken on the reddish hue of contaminants from the same iron mine that blighted Shangba. Since the late 1990s, cancer has caused about two thirds of the 26 deaths in the village. "We have to use the polluted water to irrigate the fields, since we have no other choices. We don't have any money to start a water project," says Liangqiao resident He Chunxiang. "We know very well that we are being poisoned by eating the grain. What more can we do? We can't just wait to starve to death."

There is hope yet for Liangqiao. Environmental lawyer Zhang Jingjing is filing a lawsuit against the mine on behalf of the villagers, and she has a strategy that focuses on loss of crops instead of loss of life. (Chinese courts are often reluctant to link cancer to pollution.) But win or lose, Liangqiao is a tiny part of the problem. It has just 320 people. Meanwhile, almost 400 million Chinese, fully a third of the country's population, still have no access to water that is clean enough for regular use.

India's "Hydrological Suicide." In this country of 1.1 billion, two thirds lack clean water. "Sanitation for drinking water is a low priority there, politically," says Susan Egan Keane of the Natural Resources Defense Council. The priority is agriculture. In the '70s and early '80s, the Indian government made this clear by pouring money into massive dams meant to pool water reserved for farms. "In many of these developing countries, the vast majority of their fresh water goes to irrigation for crops," says Egan Keane. "Agriculture may make up only 25 percent of the GDP, but it can get up to 90 percent of the water."

That's not to say, however, that India's farmers have enough. They are actually running low. The government built dams, but it failed to create the additional infrastructure for carrying water throughout the countryside. At the same time, factories have drawn too heavily on both the rivers
and the groundwater. In Kerala, a Coca-Cola plant had to be shut down in 2004 because it had taken so much groundwater that villagers nearby were left with almost none.

Some farmers have reacted wisely to the dropping water levels by switching to hardier crops. Kantibhai Patel says he stopped growing wheat on his farm in Gujarat, the epicenter of India's water shortage, after eight years of watching his bounty and income shrivel in the sun. He farms pomegranates now, which require far less water than wheat. Experts hope more farmers will follow Patel's lead. So far, most farms still focus on water-guzzling crops like wheat, cotton and sugar cane. Indian dairy farmers also cultivate alfalfa, a particularly thirsty plant, to feed their cows, a practice Pearce calls "hydrological suicide." For every liter of milk the farmers produce in the desert, they consume 300 liters of water, says Saniv Phansalkar, a scholar at the International Water Management Institute. "But who is going to ask them not to earn their livelihood," he asks, if the dairy farms are keeping them afloat for now?

To nourish their plants and cows, most Indian farmers have resorted to drawing up groundwater from their backyards with inexpensive pumps. When the pumps don't bring up enough water, the farmers bring in professionals who bore deeper into the ground. There is constant pressure to compete. "If one [farmer] is digging 400 feet into the ground, his fellow farmer is digging at least 600 feet," says Kuppannan Palanisami, who studies the problem at Tamil Nadu Agricultural University. The water table, he says, drops six to 10 feet each year.

**The West Bank's Water Wars.** Like the Chinese, the people of the West Bank wouldn't have a huge water problem if nature were the only force involved. Rain falls regularly on their hills and trickles down into the rocks, creating underground reservoirs. Unfortunately for denizens of the West Bank, that water then flows west toward Israel. Palestinians are largely banned from sinking new wells and boreholes to collect water, and they pay what they consider inflated prices to buy it. Meanwhile, the groundwater level is dropping, and Palestinians accuse Israelis of overusing. "[The Palestinians] sit in their villages, very short on water," says Pearce, "and they look up at their neighbors and see them sprinkling it on their lawns."

Battling over water in this region is nothing new--the Six Day War started with a dispute over water in the Jordan. Lately, on the West Bank, the water table is dropping and tensions are rising. Israeli soldiers have been accused of shooting up water tanks on the West Bank in retribution for terrorist acts, and Palestinians have been caught stealing from Israeli wells.

It is impossible to untangle the water problem in Israel and the Palestinian Authority from the overall animosity between the two groups. Conversely, says Pearce, "the wider problem between the Palestinians and the Israelis won't be solved until the water problem is solved." On the West Bank, it's a Catch-22, with water--and life--on the line.

**CHINA**

**Population:** 1.3 billion

**Crisis:** Pollution
WEST BANK

Pop.: 2.75 million
Crisis: Shortage

INDIA

Population: 1.2 billion
Crisis: Poor distribution

MAP: Yellow River, Beijing
MAP: Israel, West Bank
MAP: Mumbai, New Delhi

PHOTO (COLOR): Unfit for drinking: Contaminated water flows through a river in Shenqiu County. Factories routinely dump waste directly into the waterway.

PHOTO (COLOR): Water war: A Palestinian boy collects water at a public filling point. Israelis control most of the supply, increasing tensions in the area.

PHOTO (COLOR): Heads-up: In the state of Gujarat, villagers build a reservoir to collect rainwater. The country has many dams, but most water goes to agriculture.

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By Mary Carmichael

With Sarah Schafer, in Beijing and Sudip Mazumdar, in New Delhi

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