Earth Day Sunday 2003

Fresh Water: Our Earth Community's Survival Depends Upon It

Global Abundance, Local Scarcity

Fresh water is one of the earth's most precious resources. While there is plenty of water to meet human need, it is often distributed unevenly. Fresh water comprises about 2.5 percent of the world's total volume of water. Most of that amount is in the form of ice or snow and lies deep in underground aquifers or is in remote locations. Less than one percent of the world's freshwater is readily available for human use.[i]

Freshwater stores are continually being replenished through the hydrologic cycle, a continuous cycling of water from the earth's oceans to land through evaporation, condensation, precipitation as rain, sleet or snow, and back to the ocean again through runoff. Most of the water that does not runoff quickly seeps into the ground to recharge aquifers.

Good water management plays a vital role in realizing the abundance of the earth's freshwater supply. For instance, two countries that experience the highest levels of water scarcity, Israel and Jordan, also have water supplies adequate to meet their people's need — due, in part, to an efficient irrigation system.[ii]

Global Supplies: A Management Issue

Overuse and water quality issues continually threaten existing freshwater supplies. The United Nations Environmental Program reports, "Freshwater consumption increased sixfold between 1900 and 1995 — at more than twice the rate of population growth." Furthermore, within the next 25 years, two-thirds of the world's population will live in water-stressed or water-scarce communities if present rates of consumption continue. Already 14 African countries face water-stressed conditions, with another projected 11 countries added to the count within the next 25 years.[iii]

Agriculture and industry claim the highest rates of use of freshwater resources. Globally, about 70 percent of freshwater consumption is used for agriculture. The highest rates of agricultural use occur in Asia and Africa. North America and Europe use more water for industry than for agriculture. Overall, if trends continue, water use is expected to increase by 40 percent over the next 25 years, with 17 percent more going for agricultural use and another 20 percent for industry.

Groundwater resources are used by about one-third of the world's people. Excess withdrawals, withdrawals of ground water at a rate greater than can be naturally recharged, are occurring in parts of the Arabian Peninsula, China, India, Mexico, the former Soviet Union and the United States. In parts of the world, overuse of groundwater resources threaten water supply systems that have been used for thousands of years. Excess withdrawal of groundwater also increases the risk of land subsidence and saltwater intrusion. California's San Joaquin Valley has sunk by eight meters since the 1920s, a clear example of the secondary effects of excess water withdrawals.[iv]

In addition to overuse, urbanization threatens groundwater recharge rates. By estimating the increase in impervious surfaces in 20 of the fastest growing metropolitan areas in the U.S. between 1982 and 1997, the Natural Resources Defence Council (NRDC) has concluded that Atlanta, GA, may have lost between 56.9 billion to 132.8 billion gallons of water to excess runoff, an amount that could have supplied the household needs of 1.5 million to 3.6 million people.[v]

Human-induced climate change also presents a concern for water managers, as erratic weather increases the likelihood that both floods and droughts will contribute to the problem of water scarcity.

Worldwide, one-in-five persons lack access to safe drinking water and one-half lacks adequate sanitation. Sewage, the world's largest pollution problem, affects both surfacewater and groundwater supplies. Annually, water —

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contributes to the deaths of 15 million children under age five.[vi]

As industrial and agricultural use increases, so will the risk of pollution. Industrial pollutant emissions are expected to increase fourfold over the next 25 years. Agricultural uses of pesticides and fertilizers have a deleterious effect on the earth's water stores. Nitrates from fertilizer are one of the most serious water pollution problems, affecting both human and ecosystem health. Excess nitrates in water systems lead to brain damage and even death in some infants. In the United States more than 40 million people take their drinking water from systems that exceed health-based standards. In Africa, nitrates in some groundwater supplies are six to eight times higher than World Health Organization standards. In the natural world, excess nitrates stimulate excess algae growth, leading to the death of waterways, like the dead zone that develops in the Gulf of Mexico.[vii]

For more resources on fresh water from the United Nations visit http://www.unesco.org/water/iyfw

Footnotes

i UNEP. State of the Environment and Policy Retrospective: 1972-2002. p. 150
ii UNEP, GEO-2000. Global Environment Outlook. Chapter 2.
iii Ibid.
iv Ibid.
v Natural Resources Defense Council, "Paving our Way to Water Shortages: How Sprawl Aggravates the Effects of Drought." August 2002.
vi UNEP, t3O-2000.
vii Ibid.

Sermon Starters

Waters of Life: Enough for All

Water is so abundant on this planet that some believe the Earth should be called the "Water" planet. In the account of Eden in Genesis 2, a river flows out of Eden to water the garden. Life and water are over-flowing. God blows moist breath into the clay to bring the human to life. Water and earth are combined by God to make us humans.

Throughout the stories of the Hebrew Bible water plays a key role. When Haggar and Ishmael were sent into the desert to die. The angel of the LORD finds Hagar a spring. God opens Hagar's eyes and she saw the well of water at Beer-lahai-roi (Genesis 21:19). There is enough water for all if we just look.

One of the first treaties or covenants between humans in the Bible is a water-use compact. After Abraham complains to King Abimelech about access to a well, they swear an oath about access to the well's water and name the well — Beersheba — the "well of the oath" (Genesis 21:25-34).

God's economy is always an economy of abundance, but some circumstances require more planning.

After the Israelites follow Moses into the desert, they doubt God's abundance and complain to Moses that they are being brought into the wilderness to die of thirst. First, they complain of bitter water at Marah (Genesis 15: 24), and then, despite God having turned the water sweet and leading them directly to Elim, a place of 12 springs, they still complain that there is no water when they come to Horeb. Moses strikes the rock with his shaft and waters flow out in both the Numbers 20 and the Exodus 17 version of the story. In the Numbers 20 version, though, Moses is punished with not seeing the Promised Land, because he did not give God the credit for bringing the water from the rock.

The abundance of Exodus and Numbers has a simple formula. Worship God above all and you will have all that you need. "You shall worship God and I will bless your bread and your water" Exodus 23:25. Numbers 24:7 promises, "water shall flow from his [Israel's] buckets and his offspring shall have abundant water."

Many Psalms and Proverbs remind us of God's bountiful gift of water and our need to share that gift. Proverbs reminds us that the one who gives water will get water. Proverbs 25:21 directs us to give food and drink to even our enemies: "and if they are thirsty give them water to drink."

For Jesus, sharing God's gifts was often exemplified by the use of water. In Matthew 10:42 he says "who ever gives even a cup of cold water to one of these little ones

in the name of a disciple — truly I say to you, none of these will lose their reward."

Despite the abundance of water on the Earth, we humans are doing a rather poor job of sharing the abundance. Concern over the pollution of freshwater and many efforts to limit access to fresh water has led the United Nations to declare 2003 "The Year of Freshwater."

According to the United Nation Committee on Economic, Cultural, and Social Rights water is not just an economic commodity. On November 28, 2002, the Committee declared that access to water is a human right. The committee defined water as a limited natural resource and a public commodity fundamental to life and health.

"The human right to water entitles everyone to sufficient, affordable, physically accessible, safe and acceptable water for personal and domestic uses," states the Committee document. This is a modern secular way of recognizing that water does not come from our own private ventures, but is provided by God for all persons. Those that declare water to be best provided by private efforts are repeating Moses' heresy of not recognizing God as giver of water.

Today, some 1.1 billion people do not have regular access to clean safe drinking water and some 2.4 billion do not have adequate sanitation or sewage, according to the United Nations.

The nations of the world gathered for the Millennium Summit in 2000 and again for the World Summit on Sustainable Development in Johannesburg, South Africa in 2002. At both of these summits, the leaders of the nations of the world committed themselves to reducing by half the numbers of people with out sustainable access to safe drinking water by 2015.

The World Bank estimates that up to $870 billion will be needed over the next 10 years to improve access for safe water and sanitation in developing countries. In the absence of international direct funding to improve water access in third world countries, the World Bank and the International Monetary Fund are demanding that countries privatize water supplies, hoping that the private sector will supply the funds that rich nations refuse to supply. Many business people see that this will not work. A United Methodist businessman at the World Summit on Sustainable development told the US delegation, "As much as I might like to work in Africa on these problems, I am in business to make money and I can't see how I can make money doing this, there is still a role for the US government. I support the US doing more."

According to the World Council of Churches', 80 percent of the disease in poor countries of the world is related to poor drinking water and sanitation. Six thousand children a day will contract diseases linked to unhealthy water. By 2025, half of the world's poorest countries will face moderate to severe water shortages unless the Millennium and World Summit Development Goals are met.

Forty percent of the world's population goes thirsty every year, but there are stark differences in water use. In the United States, water use continues to climb, but in East Africa water use per capita has halved in the last 30 years. In East Africa, women and children now walk an average of 21 minutes for each trip to collect water.

In Matthew 25, Jesus elaborates on the comments made in Matthew 10 about providing a child with a cold drink of water. In the 25th Chapter of Matthew, Jesus declares that one of the ways both individuals and nations will be judged is by water we have provided water and other services to the least, the poorest members of the human community. The stakes are high. Those who do fulfill this command are promised eternal life. Those who turn away give themselves eternal punishment.

Jesus came that we might have life and have it abundantly (John 10:10b), but his other sayings make clear that he meant this as combined spiritual and physical reality. He came not to reject the law and the prophets, but rather to fulfill their vision. If we are to follow Jesus, we to will work to fulfill that vision.

While we give God thanks for our daily bread (and water) we share God's blessings with all.

"Let all who thirst, come to the water! Though you have no money come, receive grain and eat (Isaiah 55:1).