# A Sustainable Environment: Our Obligation to Protect God's Gift

by
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## Water May Become Our Greatest Environmental Issue

We have been reading many articles about climate change (global warming) and various energy issues. An environmental issue that could be of greater concern than any other is that of providing water for human use. First, let's understand how much water is available to us. As we all know, the earth's surface is about 71% water; however, 97% of all the water on earth is saline. Of the remaining 3%, 68.7% is in the form of icecaps and glaciers, 30.1% is ground water, and 0.9% is in some other unavailable form. This leaves only 0.3% of the fresh water (0.01% of all water) on earth available to us on the surface with 87% in lakes, 11% in swamps, and 2% in rivers. Not much!!!

According to the United Nations, two-thirds of the world's population is projected to face water scarcity by 2025. In the U.S., a federal report shows that 36 states are anticipating water shortages by 2013. Last year, the state of Georgia tried, unsuccessfully, to move the state's border north in order to claim part of the Tennessee River.

The concern for this water shortage is partly due to the companies that require so much for their processes. It takes roughly 20 gallons of water to make a pint of beer, about 130 gallons of water to make a 2-liter bottle of pop, and 500 gallons of water to make a pair of Levi's stonewashed jeans. Why so much? For the pop, it includes the water used to grow the ingredients such as sugar cane. For the jeans, it includes the water used to grow, dye and process the cotton.

Companies are now calculating the "water footprint" in order to manage better the water consumption. This is not dissimilar to the carbon footprint that organizations and individuals have been calculating for some years. The water-footprint concept was first developed in 2002 by a professor at the University of Twente in the Netherlands. The idea was to calculate the water content that went into making various products and then determine the overall consumption of an individual as well as that of a nation.

Following the water-footprint concept, studies were conducted to calculate the embedded, or virtual, water required for a product which was then added to what is consumed directly. Embedded water includes everything from raising beef in South America, growing oranges in Spain, or growing cotton in Asia. By calculating the embedded water, you would learn that a typical hamburger takes 630 gallons of water to produce. Most of the water is used to grow the grain to feed the cattle. This represents more than three times the amount the average American uses every day for drinking, bathing, washing dishes and flushing toilets.

At first glance, these large numbers representing water footprints for certain products seem very alarming. However, they are not necessarily bad if there is available water and it is

well managed. Since most of the water is used for crops, it becomes part of the water cycle where it is eventually evaporated or it is runoff. This water becomes temporarily unavailable for other uses, but that is not really a problem in an area that has plentiful water. If it doesn't return to the same aquifer or it returns as rainfall in another region, this could be a problem.

At the time of Jesus Christ, the world population was about 160 million. Today, it is about 6.7 billion, and by 2050 we may have another three billion on this earth. In each of these periods, the available water for the people has been the same. It is very, very critical that we learn how to manage it very carefully.