

The Challenge of Water

As the ground water table under my house rises and spills into my basement for the first time in many years, I wonder at the irony of being connected to two such parts of the world, one where the water bursts up into my home, and the other where the wells have to be bored deeper and deeper, hundred feet, two hundred feet, four hundred feet, until you get to the water, and sometimes not at all even then. Because, the aquifer underneath has just completely receded.

And do I even have to cross the waters of the Atlantic and go over the arid middle east to reach India, to see that, when here, right in the United States, state after state is having trouble, going dry. Yes some perhaps from the shifting vagaries of nature, but also perhaps, in some cases, from the entitlement of- I'm American, I can do what I want? So, I can plant myself in the desert and have a pool surrounded by palm trees, if I want?

How else does one explain the ridiculous expansion of some of the fastest growing cities of America; Las Vegas and Phoenix, both in the desert? How many bodies can one river irrigate before it dries up? How many fields can an aquifer water without being able to recharge?

By 2050, 4,000 million people in the world are expected to live in regions with severe water shortages. Today, in 2008, more than 1 billion lack access to potable water.

According to a fact sheet from the U.S. Agency for International Development, if the world's water supply is a gallon (3.8 liters), then freshwater would make up 4 ounces (118 ml,) or 3 percent, and readily accessible freshwater would make up 2 drops.

Asia, with 60 percent of the world's population, receives only 36 percent of the global freshwater runoff, with 80 percent of that occurring in floods from May to October, making the water exceedingly difficult to capture.

Many of the rapidly burgeoning regions of the world are now so over constructed that the water is not able to reach into the ground and recharge the aquifers.

In fact, Rainwater Harvesting is today the latest hardware in Bangalore, the outsourcing Mecca of the world, that might be needed to keep India's software industry booming, and the building bye-laws for the city now make rainwater harvesting mandatory for all new construction. More importantly, this technology can be used to recharge the ground water, even in heavily constructed urban areas.

A common Rainwater System consists of three main components: Catchment, collection basin and a conveyance system. Whereas rooftop systems coupled with a rain-barrel or a shallow mud-walled surface tank at ground are good for domestic use, larger surface or underground catchments can be used to retain excess runoff from small creeks and streams, which can then help meet water demand during dry periods.

Additionally, these catchments can be used to re-direct water back into the ground using recharge wells or infiltration beds.

If a third of the approximately twenty million wells used for extracting ground water in India are used for recharge during the monsoons that should be plenty of water back into the ground. The government of Delhi is even subsidizing these structures and has instituted an award of almost \$10,000 for the best rainwater system in a year.

So perhaps by having recharge wells in houses and businesses, and rebuilding some of the traditional catchments such as ponds, marshes and underground check-dams, the problem in many parts of the world could be turned around?

But what do we do here at home, in still the most affluent country in the world, the biggest guzzler and waster of almost all natural resources in the world, to stop being irresponsible: To stop watering the desert; To stop driving hummers on pavements; To stop loosening economic hit men into the third world, to bury those countries under so much debt under the guise of economic development that they are forced to give access to their resources?

We forget that ultimately we are connected with all those zones we are impoverishing, that in the end, we are also global. We need to be careful, because an immature and reckless civilization can drink up all its water at once.