

UV Radiation Kills Dangerous Pathogens In Drinking Water

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More than two billion people, or about one-quarter of the world's population, risk their health by drinking dirty water. Preventable waterborne diseases kill about two million people (mostly children below age five) annually, and stunt the growth and development of tens of millions more.

Ashok Gadgil, who is a senior physicist at Lawrence Berkeley National Laboratory in Berkeley, Calif., and a University of California, Berkeley professor, developed a technology to mitigate this situation. Gadgil's process quickly and efficiently purifies water at extremely low cost. Professor Gadgil developed the technology from 1993 to 1999 with about \$300,000 in funding from the U.S. Agency for International Development, the U.S. Department of Energy and private donors. The work included field trials in India and South Africa.

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UV Waterworks™ technology uses ultraviolet light to kill microbial pathogens in drinking water supplies, including the

organisms that cause polio, diarrhea and cholera. Unlike other water purifiers on the market, UV Waterworks does not rely on potentially carcinogenic chemicals to disinfect the water, making it safer for human consumption, as well as the environment. The device is energy efficient, works well under gravity feed (no high pressure necessary), has rapid throughput, and is easy to maintain even in remote, underdeveloped regions. It's also a better alternative to boiling water, which is labor-intensive, increases smoke inhalation, uses 6,000 times more energy, and requires cutting trees for firewood.

The technology was licensed by the University of California to WaterHealth International (WHI) and is installed on a turn-key basis in poor communities in developing countries. It has been validated at 11 independent laboratories in five countries, including India, Mexico, the Philippines and South Africa. By the end of 2007 WHI had installed more than 450 water purification systems in developing countries around the world, and more than 600,000 people were obtaining their daily safe drinking water from WaterHealth Centers.

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