

He spends

**5 HOURS**

**EVERY DAY**

fetching water  
for his family

and the

**WATER** he fetches is  
dirty, contaminated, and  
potentially **DEADLY.**

washing and other purposes. The remainder of the water would be passed through the ozonating system to provide safe drinking water for the community.

In addition to the above, TURBOCAM India is working closely with Water4, (<http://water4.org>) based in Oklahoma, to provide cheap hand pumps for places with no water and is also seeking to provide drill kits for drilling bore wells by hand.

To get involved with TURBOCAM's water mission, contact Duncan Watkinson at:  
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Two faucets provided all of the available water at a village of 400 families in Nepal, until the spring dried up. Now water is piped to a LWTS from a well one mile away.



*Innovate with Grace*

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Everyone needs clean water.

"He raises the poor from the dust and lifts the needy from the ash heap; He seats them with princes and has them inherit a throne of honor."

1 Samuel 2:8

## The Need

Clean drinking water is a basic need for all people. Many water sources in Nepal and India are contaminated and this leads to disease and death. UNICEF reports that approximately 400,000 children in India die every



Many people benefit from having clean water!

year due to diseases spread through impure water. This is approximately two children every three minutes. In India, water borne diseases cause twice

the number of deaths as AIDS and one and a half times those caused by road accidents. Flooding during the monsoon season compounds the problem of unsafe water supplies.

## The Beginning

In October 2008, TURBOCAM purchased five Living Water Treatment Systems (LWTS) from Water Missions International for use in Nepal. These systems cost \$5,000 each and with shipping and import duties, the cost would more than double. FedEx shipped these systems to Delhi, India, at no cost to us but import duty and

shipment from Delhi to Nepal still had to be paid. The LWTS is a self-contained water filtration system that can be loaded onto the back of a pickup truck, connected to a water source, and provide clean drinking water within hours. These five systems are now providing pure water at four rural locations in Nepal and at a leprosy colony in India.

## A Step Forward

The experience with the LWTS system provoked TURBOCAM India to investigate cheaper ways of providing safe water. The first attempt was a Reverse Osmosis system at a cost of \$4,000 (and no import duties or local transport). This was a much cheaper way of providing pure water, but it has some disadvantages:

1. The high pressure pump requires a three-phase power supply, which is not very common in rural settings.
2. Only 20% of the water coming into the system leaves as pure water. The other 80% has to go to toilets and showers.



3. The water is so pure that it can leach salt from the people who drink it.
4. The water is so pure that it has no resistance to bacteria after treatment. A dirty finger can re-infect the water!

The positive side is that the taste of the water is significantly improved!

## Another Step Forward

In 2011, we were introduced in a strange way to the process of ozonation in which water passes through two sets of filters before being exposed to ozone, which destroys all bacteria. The hardness of the water is reduced and the taste of the water is slightly improved. The first ozonated safe drinking water system was installed at the JMHA Hospital in Salem District, Tamil Nadu, India. A second unit has been installed at the New Life Leprosy Colony in Dharmapuri. Not only is the water safe, but the cost of the system is approximately \$1,000 per installation. This price includes filters, tanks, pipework, and the ozonator itself.

## The Future

Our hopes for the future are to continue installing complete water systems using bore wells, pumps, and filtration. Water is piped by gravity for