**Water for Life**

**Changing Lives Daily**

Developing nations often face almost insurmountable challenges with various issues that adversely affect public health. As simple as it seems to those of us in more wealthy nations, the ability for both rural and urban citizens of those developing countries to access clean water is often very difficult. At this time, approximately 59% of the world’s population can claim adequate sanitation systems, and efforts to supply that advantage to even 75% of the world’s population is falling short by nearly half a billion people.

The situation only gets more dismal when the focus is on Sub-Saharan Africa, where only 16% of those rural Africans have access to clean water and sanitation through a household connection. Not only is it difficult to locate drinking water, but when water is found it is often contaminated due to poorly built and maintained wells coupled with inadequate water quality testing. The overall lack of education among people utilizing a water source leads them to believe that any water is safe. When it comes from a well, they will drink it. At that point, quantity is much more important than quality.

It is important for those of us who do not face such challenges daily to understand not only the problem with identifying sources of clean water, but also the cause of clean water’s rarity. For whatever the reason, countries facing the challenge of accessing clean drinking water are typically poor and rural. Surface water sources are often highly polluted, and piping to bring water from fresh, clean sources to arid areas is prohibitively costly. Groundwater is the best resource because it is naturally protected from bacterial contamination and is a dependable source even during droughts. However, the high costs associated with drilling for water, and the technical challenges in finding sources that are large enough to serve the population in need, present challenges that limit tapping the resource. Groundwater is also not failsafe, as it may be contaminated with heavy metals, and bacteria may be introduced by leaking septic systems or contaminated wells. Therefore, even if groundwater is located and accessible, it must be monitored frequently. That process is costly and requires technical abilities that may not be present in rural areas.

So how much of a problem is the lack of clean drinking water? It is a huge problem. Young children die from dehydration and malnutrition, results of suffering from diarrheal illnesses that could be prevented by clean water and good hygiene. Diseases like cholera are spread rampantly during the wet season, caused by drinking stagnant contaminated surface water.

Rural areas are not alone in dealing with the problem. Urban locations face additional difficulties. Rapid growth of urban areas has lead to large volumes of water being extracted from existing sources. The influx of water, coupled with the influx in human waste, has outpaced the development of wastewater management systems, which in turn leads to pollution of natural water bodies. Side effects of that contamination include unintended use of wastewater in irrigated agriculture, irregular water supply, and environmental concerns for aquatic life due to the high concentration of pollutants flowing into water sources.

Finally, overcrowding in urban slums makes it even more difficult to control sanitation issues and disease outbreaks associated with exposure to raw sewage. It has been reported that underprivileged urban populations pay exorbitant amounts of money for water, which is often not even suitable for consumption, while resources allocated to those living in the wealthy urban areas are heavily subsidized, meaning the wealthy pay less for cleaner water and better sanitation systems.