REMARKABLE TECHNOLOGIES INCORPORATED

With water being the number one crisis in the world it is Remarkable Technologies number one Priority.

RTI's scientist and engineers are working to develop new technologies that will provide clean potable water for the world. Water is need for sanitation and new technologies are needed to address sewage around the world. RTI is dedicated to be in position to provide these needed technologies providing clean water that becomes very affordable so the economic model for clean water becomes a reality worldwide.

Learn more in the article on the next page

Overcoming hunger, disease, and poverty ....WITH WATER

GLOBAL WATER

Changing The World - One Village At A Time

Water ... worth more than gold and more crucial for survival above all other resources on earth.

And yet, over one billion men, women, and children do not have enough safe water to drink and therefore will never live a healthy life.

Who are these people?

They are the innocent children and desperate families living in overcrowded urban slums, in refugee camps, and in poverty-stricken towns and villages too numerous to count in rural areas of developing countries around the world. Here, less than 50% of the population has access to safe drinking water and only 25% have access to sanitary systems. These rural villagers have no political power, have no visibility and have no voice in the discussion of the human right to water. At Global Water, we believe it is one of our responsibilities to give a voice to the rural poor of the developing world and to say: "Yes, everyone deserves the right to safe water."

The Problem

Global Water is based upon the belief that the lack of access to safe drinking water is the primary cause of hunger, disease and poverty throughout the developing world. We would like to expand on that idea and explain in more detail why we believe this.

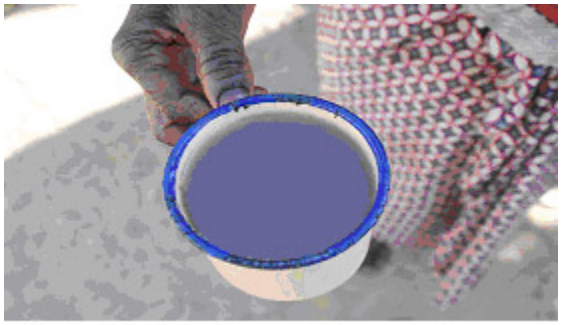
Hunger

Without water, crops and livestock wither and die. People go hungry and become weak. Weakness allows disease to run its course and finally the "Quiet Killer" – hunger, takes its toll. At this moment, many communities throughout the world are suffering needlessly because water is either scarce or polluted or may not exist at all. A sad irony is that often there is lifesaving water just 100 feet away! Directly underground so near, yet too far for people lacking the tools and knowledge to reach it. But with technologies ranging from simple and inexpensive to state of the art, Global Water is helping poor communities in developing countries find new supplies of clean, life sustaining water. And when clean, fresh water begins to flow in a community, a whole new life begins – free from the threat of food shortages and the myriad of health related problems associated with hunger.

Disease

Simply put - the lack of safe drinking water is the primary cause of disease in the world today. Everyday, *tens of thousands of people die* from causes directly related to contaminated water. And for those who survive, without good health, there is little chance for a normal and productive life. A surprising statistic to many is that contaminated water causes 80% of the health problems throughout the world. Much of the reason is because in rural areas of developing countries, the only water source for people to wash with and drink from is often a

badly polluted shallow well (less than 10 feet deep) or mud-hole used by both animals and humans. In those areas where there's actually a stream or river, they're often polluted as well, because animal and human wastes are emptied directly into it without proper treatment.



Throughout the world, water supplies in developing countries are contaminated with a wide variety of microorganisms that cause typhoid, diarrheal diseases, amoebic dysentery, cholera, and other notoriously virulent diseases. Diarrheal diseases alone are directly linked to the deaths of more than 6 million children per year. Unfortunately there has been a dramatic increase in the past 10 years of the number of deaths from the consumption of contaminated drinking water around the world. A particularly sobering thought is that this unnecessary misery and death is occurring in areas where there is no major drought or "official" emergency or disaster to cite as a specific cause. By the time a recognized emergency does occur, the numbers of people injured or killed due to drinking contaminated water quickly becomes much more dramatic since water supplies become very polluted in localized areas as people congregate during periods of drought, famine, and natural disasters.

It's an especially sad irony that these conditions persist at the very time when water treatment equipment has experienced new and exciting technological developments that can remove virtually all pollutants from water in a single stage.

During a drought, water supplies dwindle causing agricultural-based villagers to travel the countryside searching for water and food (rural areas in developing countries often contain over 70% of a population). If a drought continues, the rural population must travel hundreds of miles to resettle in relief villages as agricultural production in a region decreases to near zero. In this manner, a large number of people can become solely dependent on a country's government to supply food and water to its population. If the country's government is dysfunctional, as has been the case in numerous instances in the past two decades (Ethiopia, Somalia, Rwanda, to name a few) whole scale starvation results.

It's interesting to note that the lack of water is the primary reason why villagers must leave an area in search of food and water during a famine. Water is just too heavy to transport long distances. Food, on the other hand, can be readily transported by air and delivered to remote famine-susceptible locations. Therefore, if water is more available in rural areas, supplemental food can be air delivered to villagers experiencing famine. This would dramatically reduce the need for tens of thousands of people in weakened health conditions to travel long distances to resettlement villages. In addition, another serious problem that we've witnessed during recent emergency relief activities is the political threat to rural villagers that often exacerbates relief operations. As mentioned, because water can't be realistically distributed to tens of thousands of people in rural areas, villagers must travel to remaining water supplies. This often means traveling long distances through regions that may be controlled by opposing political forces. During this past decade we've seen starving villagers become pawns in deadly political warfare with tragic consequences, all because they must travel to find water.

Poverty

Water is the lifeblood of a community. When water is unsafe to drink, the entire community suffers. Sick children lack the energy to go to school and learn. Weak young men lack the drive to work hard – and so poverty continues. In rural communities, it is women and children who are responsible for locating and transporting water. Fulfilling this daily responsibility often leaves little or no time for women to pursue developmental opportunities and for the young to get an education – and so poverty continues.

Nothing changes a community like providing a source of clean water for the first time. It creates a complete transformation. It has the power to actually stop the cycle of poverty. The entire community becomes healthier. For the first time, children become eager to learn while young men and women are able to work harder to produce an income and more food. Everyone can envision better futures and begin working towards them. Giving clean water to a poverty stricken community is like giving a blood transfusion to a dying man. Water means new potential, new hope for a better tomorrow and a new life.

If you've ever seen an image of the glazed stare of a child sitting in a resettlement village during a drought/famine cycle and said "there must be a better way" you're absolutely correct and Global Water's Rural Outreach Water Supply program is that way.

The Solution

The solution to change these desperate conditions that exist in many regions of the world must be multi-faceted to accommodate a variety of conditions. Generally speaking, the major emphasis for governmental and private relief agencies around the world today is to provide food for starving people once a desperate situation, usually caused by drought, develops into a widespread disaster. We in no way wish to minimize the importance of these life-saving emergency efforts by many humanitarian organizations. These activities save tens of thousands of lives and the compassion demonstrated by these efforts truly show the best of human nature.

However, Global Water's concept of providing new and clean water supplies to withstand drought and alleviate the necessity to use polluted surface waters is a decidedly different focus from the normal relief effort today. Global Water wants to prevent the next famine, not react to it. It's the only way to actually prevent the drought/famine cycle from occurring when regional weather patterns change periodically. And it has been suggested by many scientists that as global warming evolves, drought/famine cycles will become more common and for longer durations in many regions of the world that are currently in a water-stressed condition.

In 2001, the United Nations Environmental Program (UNEP) asked Global Water to perform an investigation of groundwater availability in water-short regions of the world. That investigation was documented in a report entitled: Groundwater Availability Study for Water-Short Developing Countries, where it was shown there are significant groundwater assets available even in some of the most drought-prone areas of the world. Although available, these groundwater assets are not being used today because often the leaders of drought-prone countries do not possess the political will to drill water wells for their own people.

Right now, countless communities in over 50 nations are suffering needlessly because water is either scarce, contaminated, or non-existent. The sad irony is this: Often there is enough water to save thousands of lives just 100 to 300 feet away. Where? Underground. Even during the most intensive droughts in arid, desert-like areas

there is often groundwater available only 100 - 300 feet deep. However, we fully appreciate the fact that to a villager with hand tools, digging a water well 100 feet deep is unimaginable. Global Water brings water well drilling equipment to rural areas in order to provide life-giving sources of water.

Generally, our water, sanitation and hygiene related projects utilize simple systems, which use local materials, require minimal servicing and therefore create more sustainable projects. These simple solutions often time makes it possible to work in rural areas and easier for the communities themselves to maintain the facilities, thereby extending the vitality of these systems. However, there are technologies that make effective use of state of the art technology to solve water quality issues. Relatively new water purification capabilities match the technical requirements of purifying polluted water by providing a physical barrier to microorganisms and a wide array of chemical contaminants, all in one stage. Where microorganisms are the only contaminant to an otherwise safe water source, disinfection and distribution techniques can create a simple and safe water supply system for thousands of villagers.

The bottom line is….

Nothing changes a community like providing a source of clean water for the first time. It creates a complete transformation. It has the power to actually stop the cycle of poverty. The entire community becomes healthier. For the first time, children become eager to learn while young men and women are able to work harder to produce an income and more food. Everyone can envision better futures and begin working towards them. Giving clean water to a poverty stricken community is like giving a blood transfusion to a dying man. Clean water and latrines gives people the opportunity and the dignity to lead healthy lives, pursue education, and fulfill their lives to the fullest. This leads to new potential, new hope for a better tomorrow and a new life.

Global Water's projects have an immediate life-changing impact, particularly on women and children, who most often have the responsibility of collecting water for the family each day of their lives. Successful Global Water projects utilize water and sanitation as a tool to create sustainable socioeconomic development in these poor rural communities.