

# Water from Thin Air ...

## ... and so much more!

How do we live? What keeps us healthy? What are the most basic needs for physical survival, and how do we receive them? The answer lies in water. Water nourishes all living things in this world – water for trees producing food and oxygen, water for animals providing sustenance and labor, and water for people to drink. Yet, the world is running out of the resources necessary to provide clean, safe and usable water to its exploding populations. The Briarwood Group through The Water from Thin Air Project can provide the world with an answer – the ability to create clean water through an untapped natural resource, the atmosphere.

Often, those of us in industrialized nations believe that the only way we can help impoverished countries is through direct donations of food, water, medical/educational supplies and time. These gifts are so crucial to a broken world, but they are short term.

What if you could be part of a new technology that would allow all these valuable contributions to truly take hold and make a difference, the way they were intended? The Water from Thin Air Project provides the long term answer that gives boost to other essential donations. To set this dream in motion, The Briarwood Group begins with a village in Djibouti, Africa.

***“A woman wraps her baby in a tattered cotton shawl. With the baby slung over her shoulder and lying against her back, the young mother sets out on her journey. It is dawn, just before the sun arises. Her older children will patiently await her return to the one-room hut that sits nearly alone on the sub-Saharan African plain. It will be hours before she comes home from her daily trek to find water. She will not go to the diseased river that her youngest son drank from several months ago; the river that ravaged his body, made him sick and eventually took his life. No, this mother must find clean, safe water, and no amount of walking will be too much to keep her other children alive.”***

### The Need

Unfortunately, this scenario occurs each day as millions of people in impoverished nations struggle to find water that won't kill them. Following are the important statistics founding this growing, international concern:

- One-sixth of the world's population (1.1 billion people) does not have access to safe, clean usable water.
- More than 80 countries, housing over 40 percent of the world's population, face a water shortage.

- The need for water has increased six-fold in the last century; more than twice the rate of the world's population growth.
- Every 15 seconds a child dies (app. 6,000 children/day) due to a lack of safe, clean drinking water in the world.
- More than 200 million hours are spent each day by women and female children from around the world, collecting water from distant and often polluted sources.
- Water-related diseases account for 80% of all sickness in the developing world and claim approximately 5 million lives each year.
- For children under the age of 5, water-related diseases are the leading cause of death, responsible for 4 out of 5 deaths in this age group.
- Diarrhea alone kills 1.8 million children under 5 every year, but most cases could have been prevented or treated through adequate sanitation.
- Djibouti infant mortality rate ranks as the 11th worse in the world.
- Djibouti ranks 211th out of 222 countries with an avg. life expectancy of 43.25 years.
- Following are Djibouti's major infectious diseases ranked by degree of risk:
  1. Food and/or waterborne diseases
  2. Bacterial and protozoan diarrhea
  3. Hepatitis A and E
  4. Typhoid fever spread from water sources
- Scanty rainfall and torrential flooding limits the crop production of fruits and vegetables, leaving most food sources to imports only.

Because water is the sustenance of life, no developing nation can actually reduce poverty without it. The Briarwood Group (TBG) through The Water from Thin Air Project can help change this disastrous situation with a new and innovative technology. This new technology uses dehumidification processes powered by solar-generated electricity, creating pure water from thin air. By installing these water generation systems in Djibouti and other like nations, we can impact people's lives by saving them from sickness and death, as well as providing them with a stronger economy through income provided by a pertinent utility. Secondly, we relieve the burden from natural water tables, allowing those resources time to replenish, and as an added bonus, we assist in the decrease of global warming (an over-abundance of moisture in the atmosphere contributing to the green house effect on the world today).

TBG will always work to give a hand up to all people rather than a hand out – it is what drives our leadership action! Your stake in this venture will help release individuals from poverty by providing a long-term, eco-effective and holistic solution to their economic and health concerns.

### **Background for The Water from Thin Air Project**

Approximately ninety percent of the world's current drinking water is located in the ground; therefore, digging wells is the most common solution for providing access to clean water. Digging

a well costs about \$160,000 in equipment, time and labor. The bulk of current donations that are designated for water extraction efforts in Djibouti and around the world are quickly depleting, because as water is consumed, the supply is exhausted before it has a chance to replenish itself. For example, the low elevation, water table in Djibouti is mostly brackish as a result of seepage from the Red Sea. Many nations and humanitarian organizations have attempted to intercede on behalf of the people of Djibouti to repair drilling sites, bore additional drilling locations and provide alternate power sources for water table extraction. Although, what many nations along with the Djibouti National Water Authority have realized and publicly proclaimed is that a real need for alternative water supply technologies not only exists but is detrimental to the survival of the people of Djibouti and other developing nations in the world.

Our method of water extraction, Atmospheric Water Generator (AWG) technology, provides a way for developing nations to supply their citizens with water that is relatively inexpensive, efficient and environmentally safe. The fifth largest source of water in the world, which has remained virtually untapped, is the atmosphere. Yes, thin air.

### **Why Djibouti? Why Now?**

In Djibouti, we have a viable spring board for those nations of eastern Africa and beyond, whose climates are hot and humid. This unique environment offers dehumidification technologies an opportunity to harvest moisture from the air. The resulting product, pure water, will ultimately save lives and provide new economic possibilities via a consistently producing, profitable utility.

Bordered by the Red Sea and the Gulf of Aden, Djibouti is surrounded by water it cannot use (desalinization techniques being neither cost-effective nor environmentally responsible) but is shielded in a humidity that can be harvested. By targeting community centers in small villages outside of Djibouti City, TBG can directly affect the lives of thousands of the rurally poor. Community centers are key to the education and healthcare of these people, some of whom continue to practice such activities as animism for treating the sick (e.g.: blood letting to cure a headache, incense burning for fertility, etc.). To begin, our goal is to impact nine distinct villages in which the Army Corp of Engineers has built community centers designed for medical clinics and educational centers. At the first of these locations, one greenhouse farming structure has been set up near a pre-existing medical/community center. Two Atmospheric Water Generator systems (AWG's) can be installed within the community center. Once these generators are operational, not only will clean water be available for drinking, but air-conditioning (a by-product of the AWGs) will be pumped into the community/medical center allowing for consistent medical care/sterilization and educational classes. A portion of the clean water will also be used for experimenting with greenhouse farming which will provide fresh vegetation for improved health. With the Djibouti model in place and functioning successfully, interest will burgeon and other similarly affected nations will seek this type of assistance.

There is an extensive Western presence in Djibouti thanks to the French and American military bases located there. This offers a stable environment for working with Djiboutian government officials to extend this assistance to other parts of the country. The Djibouti Ministry of Health is already involved in early implementation talks. Djibouti's location also provides a strategic advantage as it serves as a key port for goods entering and leaving Africa. This offers a strong potential opportunity for marketing harvested water and crops to other nations, thus furthering the economic progress of this deteriorating nation.

### **So How Does it Work?**

The Atmospheric Water Generator (AWG) system traps the moisture that is present in the atmosphere, and then purifies the extracted water, turning it into safe, usable water within minutes. The AWG systems are a solar-powered arrangement of self-sustaining tanks, pumps, misters, and tin collectors that can produce 100 gallons of clean water per unit in a typical day (we are seeking to install two generators for a total of app. 200 gal./day). A small dehumidifier, working much in the same way as contemporary air-conditioning and heating systems do, is

capable of producing small amounts of water for home use, or large amounts of water when multiple generators are installed together. Once the moisture is collected, the water is purified with state-of-the-art filtering techniques resulting in some of the cleanest water available today. Two hundred gallons of clean drinking water may not seem like much to those living in industrialized nations, but in a country deprived of usable water, this is a life-changing start.

### **Major Benefits**

There are many benefits to the Atmospheric Water Generation (AWG) systems. The most important gain is that up to 200 gallons of fresh drinking water will be manufactured per day with the installation of two systems (app. 1400 gal./week). Secondly, AWGs are not only powered by natural resources that do not harm the environment, but the system itself assists in purifying the air and alleviating global warming. Third, the by-product of these generators is "conditioned air" that can be used for cooling buildings and for refrigeration (medication storage and medical sterilization). Finally, installation is easy and cost-effective since the AWG is a technically simple design with few moving parts. This places AWG technology at a significant advantage to current drilling and desalinization practices for water extraction.

### **Government Climate of Djibouti**

In initial conversations, TBG has successfully demonstrated this technology to the government of Djibouti, whereby the Djibouti Ministry of Health has shown particular interest. And yet, because this is a country in economic desperation, they simply do not have the financial means to invest in new, unconventional technology. Though its urbanized citizens have at least some access to clean water, many of the outlying villages do not. Bringing The Water from Thin Air Project to Djibouti will afford impoverished, rural residents ready access to clean water, while modeling an effective technology for global government agencies and other humanitarian organizations.

### **Investing in Humanity**

The Briarwood Group seeks \$122,152 in grants and giving to implement The Water from Thin Air Project in Djibouti (financial statements and full business plans are available upon request and/or presentation). These funds will finance the shipment/installation of two AWG systems, the hiring, training and salaries of four national employees (one project manager, one engineer, and two security/maintenance personnel), spare/replacement parts, and system maintenance/operation costs.

More importantly, your support will provide clean drinking water, medical care, education, basic hygiene, jobs, a prospective utility market, potential fresh produce and independence to one village in Africa, as well as a vision for others in the region to follow. The value of your support will lay in the faces of children who will be there at the end of the day because of your helping hand up. Your support will help put an end to the senseless loss of all human life that has a value beyond dollars; thus allowing those who live a chance to make a difference in this world as we have chosen to do!

Please help bring this life-giving technology to Djibouti and other nations by funding The Water from Thin Air Project today!

### **Additional Information/ Contact Information**

The Briarwood Group, in cooperation with Excegy International (manufacturers of the Atmospheric Water Generation systems providing at-cost production for The Briarwood Group), is working with the Djibouti Ministry of Health on long-term solutions beyond one village.

If you are interested in learning more about this amazing new technology and becoming a stakeholder in this humanitarian effort, please contact Stephen Higgins at The Briarwood Group at (719) 591-2227 or (719) 651-0244.