

Hopes and Dreams

by Dr. Dennis C. Cravens

The birth of cold fusion has been a long and complicated one. The time is rapidly approaching when the new chemically assisted nuclear events will be coming out of the laboratories and into the greater world of daily human needs. Just like a newborn child, this revolutionary technology has great potential: It can become what we want it to become. At this time we should begin to think about how the technology should be developed to best benefit mankind. Some people want to take the technology to make gold and money for themselves. Some hope to make large financial empires. Some will want to make weapons. Certainly, new corporations and individual wealth will be generated. However, I personally hope that some benevolent individuals will take the initiative to start the technology down the right road during its infancy. We need those who can see the needs of all of mankind and begin now to bend the technology to those goals.

The technology will begin to grow rapidly. Yes, it is a little wobbly now, but soon it will stand on its own. Some of us need to take it by the hand and teach it which path to travel upon. I want to teach it to make the world a better place. There will be much to be done and learned. I have thought long and hard about what I want of the new technology. I wish to teach it to supply the most fundamental and the most universally required thing for mankind — **clean water**. Let me explain, and perhaps someone will want to help me in my quest.

The Problem

According to the World Health Organization, unsafe water is the world's number one killer. **It is estimated that about 25,000 people each day are killed from complications due to unsafe water and about 80% of the world-wide sickness is due to such water.** Drinking and bathing water are the most common routes for the spread of infectious disease. For example, diarrhea alone causes four-million deaths each year worldwide. In India alone, 1.5 million children die of diarrhea each year. In some countries women and children spend up to six-hours each day simply fetching water and carrying it home. This greatly impairs such activities as education, income-generating work, and social progress. In some urban areas people must spend up to 25% of their income to purchase water from private wells and then carry it home on their heads.

Difficulties

There have been many efforts to supply water to such areas. Although it sounds like it would be easy and straightforward to construct simple water systems, it is not. About 75% of such projects result in long-term failure. Most systems are poorly designed and lack

any long-term support. Most of these difficulties fail because of lack of local community involvement in the planning and construction, lack of health education systems, and long term planning for maintenance. Success rates rise to 95% when the local communities supply part of the cost and planning. Since there are many different conditions throughout the world, a single system cannot be optimized for all locations.

A Proposal

It is proposed that a long term project be initiated to develop an array of water system prototypes and place them in use in developing countries. It is proposed that funding, development, field tests, and maintenance be conducted over a ten-year period. The project would cost about one million U.S. dollars. About half of that would go for salary, design, testing, facility, overhead... etc. during the 10-year period. The other half would be used at about \$50,000 per year on systems, construction, maintenance, travel, shipping, etc. for individual systems in the field. For the project to work, a long term commitment and total funding at the beginning are required.

About half the working time will be on production and design of water systems using existing technologies, such as solar cells. The other half of the time would be used to develop a compatible power device such as the Patterson Power cell or "cold fusion" systems for use in the water systems. The systems will be designed to make use of a range of power sources.

It is important to notice that the success of the project does not rest on the success of the more exotic power systems. Indeed, current technologies such as photovoltaics and water rams can be used in many applications. Such existing technologies will be used during the first few years until the young technologies have a proven success rate over longer periods. This is because it will take a while for the newly delivered technology to develop and stand on its own. For the first few years, other technologies may be needed to assist the fledgling technology until it can support itself.

Target areas

Areas such as Rwanda, India, and Bangladesh are in drastic need for such solutions. However, the initial work would concentrate on Central America and South America (such as Guatemala and Bolivia). The rationale is this: the initial system will need more support until proven. Areas such as Guatemala provide easier logistical support and shipping. Initial contact with missionary groups from the Church of Christ, Baptist Church, and the Catholic Relief agencies have promised support and local contacts. I am indebted to the Water Partners for most of my

facts and approach to the problem. The more remote and logistically-challenging areas will be tackled after individual systems have shown proven reliability.

Key to success

Local support is the primary key to long term success of such projects. Communities will be selected that will contribute to the construction and maintenance of the project. It is unlikely that a project will succeed long term unless the community itself contributes to the efforts. Quickly constructed, "freely given" systems have less than a 25% success rate in practice. Only by commitments of 10 years or more and local participation do such systems succeed. The design will be based on modular systems, and repair parts and maintenance will be available for the duration of the project.

Conclusion

Some people want their child to be a doctor to make money and live well. Some are happy to see their child be a doctor to help others and ease pain.

.....I hope that when cold fusion comes of age it will do many things. But if it did no more than give each person a glass of clean water, it would make the world a better place.

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(Gene Mallove encouraged Dennis to take time from his critically important experiments to write this.— Bless You, Dennis!)