

Do the Smart Thing, But Also Do the Right Thing

BY ANTHONY ZUENA, P.E.



As engineers, we understand the technical, communicative, and organizational skills required for a project. However, when working with groups like Engineers Without Borders, an engineer has to call upon a whole different set of skills: compassion, resourcefulness, and determination.

Engineers Without Borders is a nonprofit humanitarian organization that partners with developing communities worldwide in an effort to improve quality of life. This partnership revolves around the implementation of sustainable engineering projects that involve and train internationally responsible engineers and engineering students. According to its Web site, the organization, founded in 2001, has over 200 developing

disrepair or are too small for the size of the communities they serve; for many others, no system exists, forcing villages to gather and carry water back to their homes. Also, many villagers tap into water sources that are potentially contaminated, so finding a clean water source is crucial. There's no overstating the importance of this issue. According to the humanitarian organization World Vision, every eight seconds a child dies because of a water-born illness.

Engineers and students worked in Los Planes, a village of some 100 people located in the country's Yoro district. The villagers would get water from streams located near the village, as well as a source located in nearby hills, both of which were connected to a distribution system. However, this proved to be inefficient, as it would only provide a trickle of water to only a few

with the help of aid organizations, villagers learned to grow a variety of crops: cabbage, carrots, onions, tomatoes, radishes, and beets. This resulted in better nutrition and for those villagers who use agriculture as a means of providing income, the ability to afford medicine.

Thanks to programs like Engineers Without Borders, professional engineers with a common desire for global betterment are given the opportunity to make a difference in the world. In Los Planes, that betterment was seen firsthand. Simply put, the creation of a viable water distribution system dramatically improved the quality of life in this Honduran village. "We feel like we are born again," villagers told the engineers and students time and again after seeing how much their community was transformed. "You have changed our lives."

For those who were involved with the water distribution project in Honduras, the experience was a sobering one, opening eyes to the everyday hardships people from underdeveloped nations face. After returning home from the project, S E A engineer Laura Robinson talked of spending \$40 on dinner and thinking to herself, "How much PVC pipe would that buy for a village that needed clean water?"

What Robinson learned, as well as the others involved with the project, is that engineering is not just about doing the smart thing, but also doing the right thing. It's a process that enhances the image of the engineer and satisfies engineers' philanthropic side, but most important of all, benefits the lives of those less fortunate. "Humanitarian engineer" is a term that's mentioned today when referring to an engineer who uses his or her skills for a greater social good—skills of both the professional and personal variety.

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Using our skills in a socially responsible and humanitarian way can bring engineers an enormous sense of achievement.

and established chapters working on over 170 projects in 41 countries.

For any engineer, completing a project brings an indelible sense of satisfaction and accomplishment. Working with EWB takes this to a whole new level. Engineers see how their professional and people skills can change entire communities in underdeveloped countries. Using our skills in a socially responsible and humanitarian way can bring engineers an enormous sense of achievement.

One of EWB's goals is to improve public health by creating systems for improving water supply, irrigating farms, and handling sewage. Engineers from S E A Consultants Inc. and students from EWB's Northeastern University chapter recently participated in a water distribution project in Honduras. According to the World Health Organization, 25% of the rural population in Honduras doesn't have access to a sustainable, protected water source. For many villages, current water systems are in

houses. Further compounding Los Planes's water problems was that both sources were found to be contaminated, largely from the village's livestock.

Working together, the engineers and students identified a cleaner, more reliable water source almost two miles away. Construction of the water distribution system was separated into two major phases. During the first phase, a pipeline was installed from the source to the village. The Los Planes villagers were involved in the work as well, hand-digging the future pipeline. The project's second phase involved building a reservoir tank in the village and a distribution system to supply the houses with their own taps.

The team of engineers and students experienced firsthand the effects a capable water distribution system can have upon a village. Livestock became easier to maintain. Villagers were freed of the daily, grueling labor involved with carrying water to their homes. Personal hygiene improved. And