



WaTER Center Research - Behavior and Cultural Aspects

A long-standing belief in the WaSH sector has been that the solution to the world's water and sanitation crisis either involves more money, more effective technology, or better education. However, based on the WaTER Center's experience and the findings of others, we have identified this belief as a significant misconception that has continually failed to produce sustainable WaSH solutions. Instead, we believe the long-term adoption and sustainability of a proposed WaSH solution is dependent upon the consideration of the local economy, site-specific technology and effective education practices as well as concern for the community's religion and culture.

Research has shown that projects funded by sources outside of a community are inefficient without a developed community-based upkeep program and a local sense of ownership and accountability. One way such community investment can be established is through a fee for water usage. Research on health education has proven that information alone is inadequate to motivate behavior change. Therefore, multi-level approaches that include environmental, systems, interpersonal, and psychological interventions are necessary for behavior change. This is because health is not always the primary incentive for behavioral change. Rather, privacy, convenience, dignity, safety, and status should also be considered as means to effectively motivate change.

For example, an NGO might prefer to install a new well and manual hand pump in the center of a village. In one context, the location of the well might be beneficial as the water-carrying time for girls would be drastically reduced, allowing them to go to school and guaranteeing them greater safety. In another context, installing the well in the center of the village might disrupt an important socialization mechanism if the water-gathering time is a significant contribution to a woman's sense of community and self-worth in the village. Furthermore, the choice of a manual hand pump might not be appropriate for every context. In some regions, replacements for worn pump parts are not readily available. Given this, a more durable pump could be needed. These are nuances that require knowledge of the specific regional, economic, and cultural concerns of a community.

The WaTER Center is actively incorporating an awareness of and sensitivity to the cultural and anthropological context for each of its projects. Our last travel team to Ethiopia included Dr. Paul Spicer of the Anthropology Department at OU. Dr. Spicer has been studying the anthropologies of health and human development in the native North American communities, and is beginning to expand his work into the unique and ancient Ethiopian culture. His findings will impact the manner in which we conduct and implement our work in fluoride mitigation of impacted ground water in this region. As one example, because of religious sensitivities to the usage of discarded animal bones, we have shifted our research emphasis away from the usage of bone char towards fish char as a filtering medium. Other team members have begun collaborating with the WaTER Center, bringing their expertise in the social sciences to bear on water solutions: Dr. Pat Hardre (Education), Dr. Aondover Tarhule (Geography), and Dr. Helene Carabin (Health Sciences). In addition to transdisciplinary research, we support and are establishing a broad-based educational curriculum that includes training in the social sciences in addition to the necessary technical training. According to Ms. Laura Brunson, EPA Star Fellow



at OU, “sustainable WaSH solutions are about much more than a successful technology, which makes it very important for me to diversify my education. I thrive in this interdisciplinary setting, which is equipping me to deal with many types of national and international problems.”

In summary, WaSH problems and solutions extend well beyond the technical disciplines into other academic fields. They cannot be solved by money, technology or education alone. The WaSH sector is filled with well-intentioned, engineering-based “solutions” that did not consider the cultural, political, public health, economic, or social issues. For example, it has been estimated that in the last 20 years, 600,000-800,000 hand pumps have been installed in Sub-Saharan Africa, of which some 30% are known to fail prematurely, representing a total failed investment of between \$1.2 and \$1.5 billion. Sadly, as Ned Breslin (Water for People) has pointed out, such failures do not transform lives; rather, they foster despair as communities sense that they are destined to live lives of poverty. Our commitment at the WaTER Center, beginning with our current projects, is to seriously consider and incorporate the behavioral and cultural contexts into each potential water solution.