

The Value of Clean Water and Sanitation

Dale H Easley

Summer, 2014

My father said, “The value of a good stink-stink has always been underestimated.” *Stink-stink* was the term of my youth for a bowel movement, which my father took ritually each morning upon his *throne*. He usually took the comics with him to read while mom used the time to wash my hair in the kitchen sink. We had no shower, only a bath, so to remove the adolescent grease from my head, I’d grab a towel from the bathroom before Dad occupied it, lean over the sink, and have mom scrub my hair. We learned to warn Dad when we were ready to rinse, lest he flush and scald my scalp. The old plumbing in the house did not adjust well to the sudden change in pressure due to his flush, and the cold water would be diverted to the toilet, leaving only near-boiling water in the faucet above my head. Dad kept the thermostat particularly hot so that, mixed with cold, the hot water would last through the morning for all the family.

Nowadays I am a hydrogeologist and statistician. My training began under that faucet. Why did that old plumbing seek to scald me when Dad flushed? What were the odds of being burned, and how could I reduce them? A simple intervention—yelling to Dad ahead of rinsing—reduced my pain immensely. Low cost and appropriate to the situation. Such are the best of practices in water development. Likewise, Dad’s emphasis on *a good stink-stink* had profound merit. Only years later did I discover the world’s abundant lack of sanitation and the fact that diarrhea is the leading killer of children under five years of age. Dad was on to something—the combination of water resources and good sanitation could change the world.

Appropriate technology () is the term used for modernization appropriate to the current conditions of a group of people. For example, installing an electric water pump in rural Haiti where electricity is often non-existent is a sure failure. However, a dependable hand pump can be a tremendous improvement over nearby streams. In one area I visited in southern Haiti, gastrointestinal illness was reduced an estimated 80

The development community moved beyond focusing on appropriate technology to *sustainable development*, or sustainability (<http://www.worldbank.org/depweb/english/sd.html>). The reason was pretty clear on my first visit to Haiti—if there is no sense of local ownership and no resources for maintenance, the technology soon falls into disrepair. I saw multiple failed water projects with

a variety of technologies all deemed appropriate, and all having failed and been abandoned. Money is far easier to obtain for new projects than for maintaining old ones. Maintenance requires systemic change, education, infrastructure support, and community building. That takes too long for most Americans, who would rather do a two-week volunteer trip—a vacation that also makes them feel good about themselves but produces little lasting change. *Sustainable development* focuses on the longer commitment and local empowerment.

One of the biggest challenges of sustainable development is the rapid change in available technology, much of which cannot be foreseen far into the future. For example, much of Africa has skipped the step of stringing miles of telephone lines, going straight to cell phones. Huge amounts of copper are saved in the process. It's very difficult to predict the future use and shortages of such resources when one can't predict the future technologies that will replace or use them. Still, to try to empower people, avoid environmental degradation, and think of future generations, seems to me to be worthy goals despite the limitations of our foresight.