Biodigestion, Sanitation, and Public Health in Rural Cambodia

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Engineers Without Borders at UF (EWB-UF) is a student run organization dedicated to providing engineering expertise to benefit developing countries. The Cambodia Team of EWB-UF has been assessing the needs of rural Cambodia with the help of a local NGO for four years and recently sent a delegation to Cambodia for a data collection and assessment trip. Rural Cambodia experiences many of the same problems that other remote and impoverished areas in the developing world face. Most families in these areas rely exclusively on firewood for cooking fuel. This leads to deforestation and the associated degradation of the land. Family members responsible for cooking (almost exclusively females) suffer from respiratory and other ailments from exposure to smoke. In addition, sanitation and clean water services are not available to most families. Open defecation and water collection from shallow wells or rivers are standard practices. One technology that could provide a solution to firewood use and the risk of fecal pathogen transmission is anaerobic digestion. An anaerobic digester processes manure and human waste into clean biogas for cooking and a safe organic biofertilizer, which is another resource invaluable to subsistence farmers. With a local program already in place to build and support the operation of family-scale anaerobic digesters, the Cambodia Team of EWB-UF has taken an advocacy role in promoting anaerobic digestion technology. The team will be developing more cost-effective and efficient methods of rainwater storage as well as a cost-effective latrine to be integrated directly with anaerobic digesters.