

ENVIRONMENTAL ENGINEERING APPROACH FOR RURAL COMMUNITY WATER SUSTAINABILITY

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In PR, 97% of populations have improved drinking water supply and 55% have improved sanitation with PRASA. Approximately 5% of PR populations are living in 246 non-PRASA communities and are battling for secure access to clean water and to adequate sanitation facilities. This research aims to, but is not limited to, (1) host a workshop with the components (federal and state agencies, municipals, and community organizations) that are pertinent to the subject, (2) raise information bases to establish the state of present situation and identify information that is currently unavailable, and (3) provide best management practices and technologies suitable for the water supply and sanitation of non-PRASA communities. Corresponding to the first objective, the First Rural (non-PRASA) Community Water Supply and Sanitation Workshop was held. More than 200 people participated to the Workshop. They consisted of all levels of the citizens: employees in governmental and municipal agencies, community leaders, university professors and staffs, and graduate/undergraduate students. As for the second objective, a Geographical Information System tool has been used for the creation of a digital database with required information for the identification of rural communities with water quality problems that need technical support. Troubled communities have been selected on the basis of the following variables: infant mortality, cancer rates, treatment type, location, and PRASA account. To meet the third objective, experimental drum filtration and disinfection units have been tested in a non-PRASA site. Presentation will include technical aspects of outputs and outcomes in detail.