



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2004GU50B

Title: Qualitative examination of groundwater from Yap and some of its neighboring islands

Project Type: Research

Focus Categories: Water Quality, Water Supply, Water Use

Keywords: Water Analysis, Water Quality, Groundwater

Start Date: 03/01/2004

End Date: 02/28/2005

Federal Funds: \$30,114

Non-Federal Matching Funds: \$0

Congressional District:

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Abstract

Over 50 percent of the Yap Island population utilizes groundwater as its drinking water source, quality of which is unknown. No qualitative examination of groundwater samples has ever conducted owing to the economic and other infrastructure constraints of Yap State Public Service Corporation (YSPSC), the establishment responsible for water treatment and distribution. Consequently, groundwater contamination caused by pathogen or chemicals remains undetected. Current treatment facility at Colonia (Central Water System) is able to supply nearly 500,000 gallons of treated water daily for a population of about 3500. Declining Compact Grants from United States in recent years and lack of necessary infrastructure facilities and trained work force makes it difficult for YSPSC or Yap State Environmental Protection Agency (EPA) to conduct periodic monitoring of water sources. The limited number of water reservoirs in the State that exist close to the human habitation makes it a very likely source of contamination and thereby water borne

diseases. The proposed research project involves a three-way collaboration between Agricultural Experiment Station, Yap Campus (College of Micronesia-FSM), Water Services Division (YSPSC) and Yap State EPA. The objectives are to (i) conduct a quality assessment of groundwater samples collected from different localities of Yap State including three of its main inhabited neighboring islands (ii) establish baseline information on the present condition of the vital resource, and (iii) train YSPSC and Yap State EPA personnel in carrying out various water qualities testing procedures. Using a set of portable equipment coupled with commercially available test kits and laboratory exercise, we will analyze water samples for biological and mineral qualities. Biological quality, such as coliform content etc., is of particular concern as a health consideration for drinking water. Besides, tests will also carry out for TDS, pH, alkalinity, nitrate, sulfate, phosphate, potassium, carbonate, chloride and other basic elements/minerals. Service of private laboratories will seek to conduct certain tests. Data obtained will serve as a benchmark for comparison with the information that gathers during future monitoring programs. Trainees of this program will be technical representatives from YSPSC and Yap State EPA