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WATER QUALITY OF TRADITIONAL COMMUNAL DRINKING WELLS: THE CASE OF A FISHING COMMUNITY IN PANUKULAN, POLILLO ISLAND, QUEZON, PHILIPPINES

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ABSTRACT – In distant island communities like Polillo Island, adequate supply of freshwater and potable water is becoming a problem due to increasing population and climate change. Traditional communal drinking wells are reliable sources of potable water but groundwater is vulnerable to contamination from a range of sources. A study was conducted to assess the water quality of three traditional communal drinking wells in Barangay Libo and Barangay Pandan in the Municipality of Panukulan, Polillo Island, Quezon. Water samples were collected in May 2014 and November 2014, and the physico-chemical and microbiological parameters were characterized. Physico-chemical analysis showed that water samples are within the limits recommended by the Philippine National Standards for Drinking Water (2007). Microbiological analysis indicated total coliform and fecal coliform contamination and the possibility of the presence of water-borne pathogenic microorganisms. Data from the barangay health station showed that incidence of diseases associated with consumption of contaminated water are rare possibly because the local people may have developed partial immunity. This study indicates that well water if consumed untreated is not suitable for human consumption due to fecal coliform contamination. Use of disinfectants and implementation of protection measures to wells is necessary to improve the groundwater quality.

Keywords: Water quality, traditional communal drinking well, physico-chemical, microbiological, Panukulan, Polillo Island

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