A COMPARATIVE ANALYSIS OF PHYSICO-CHEMICAL AND MICROBIOLOGICAL QUALITY OF HARVESTED RAINWATER AND OPEN WELLS IN ACHINAKOM VILLAGE, A LOW LAND AREA AT KUTTANAD WETLAND REGION, KERALA, INDIA.

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ABSTRACT

Harvesting of rainwater is a widely practiced, cost effective and efficient method to meet the increased water demand of the contemporary world. The quality evaluation of harvested rainwater is having great importance and not much studied in the Indian context. The Achinakom village, were the study conducted is a low lying area and the rainwater harvesting is the most suitable option for the people residing in here due to the severe surface and ground water scarcity due to its geographic peculiarities. The present study makes an attempt to compare the quality of Harvested Rain Water (HRW) and open wells in the Achinakom region. Water samples were collected from eight HRW tanks and two open wells randomly from the study area and analyzed for various physio-chemical and microbiological parameters by adopting standard procedures. The study concludes that the majorities of measured quality parameters in the harvested rainwater are within the WHO standards for drinking water, while the quality concentrations well water samples show a much deviation from the standards. Presence of fecal coliform bacteria was observed in one of the harvested rainwater site (HRW-7), which is not properly covered. So the study suggests that even though HRW are excellent sources of drinking water, careful attention should be given to its proper maintaining.

Key words: Rain water harvesting, Potability, Water quality, Low lying area