

Assessment of Socio-Economic and Water Related Topics at Community Level in Yatta Town, Palestine

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Abstract : Yatta is a town in the Governorate of Hebron, located 9 km south of Hebron City in the West Bank. The town houses over 100,000 people, 49% of which are females; a population that doubles every 15 years. Yatta has been connected to a water network since 1974 serving nearly 85% of the households. The water network is old and inadequate to meet the needs of the population. The water supply made available to the area is also very limited, estimated to be around 20 l/c/d. Residents are thus forced to rely on water vendors which supply water with a lower quality compared to municipal water while being 400% more expensive. As a cheaper and more reliable alternative, rainwater harvesting is a common practice in the area, with the majority of the households owning at least one cistern. Rainwater harvesting is of great socioeconomic importance in areas where water sources are scarce or polluted. In this research, the quality of harvested rainwater used for drinking and domestic purposes in the Yatta area was assessed throughout a year. A total of 100 samples, were collected from (cisterns) with an average capacity of 69 m³, which are adjacent to cement-roof catchment areas with an average area of 145 m². Samples were analyzed for a number of parameters including: pH, alkalinity, hardness, turbidity, Total Dissolved Solids (TDS), NO₃, NH₄, chloride and salinity. Biological and microbiological contents such as Total Coliforms (TCC) and Fecal Coliforms (FC) bacteria were also tested. Results showed that most of the rainwater samples were within WHO and EPA guidelines set for chemical parameters. The research also addressed the impact of different socioeconomic attributes on rainwater harvesting through questionnaire that was pre-tested before the actual statically sample is collected.

Keywords : rainwater, harvesting, water quality, socio-economic aspects

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