TREATED WASTEWATER INFILTRATION IN CONSTRUCTED PONDS AT PAPHOS DISTRICT, CYPRUS

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Paphos is the smallest city of Southern Cyprus; however during the last decade population has increased extremely. On of the most important environmental issues that Paphos municipality has to deal in this new era is the sewage which produces 4,895,000 m3/yr of wastewater. After close consideration with Water Development Department (WDD), and taking into account the groundwater table drop over the last fifty years, Paphos municipality proceeded with the construction of an Urban Wastewater Treatment Plants. The treated effluent is used for the enrichment of Ezousa Aquifer by entering twenty two shallow ponds which lie along Ezousa River. Afterwards water is pumped from the groundwater and discharges it in to an existing channel, which connects the Asprokremmos dam with agricultural land in Paphos. Treated sewage effluent quality is continuously assessed in terms of salinity, heavy metals, persistent organic compounds and microbiota, to optimize the quality of the downstream groundwater used for local irrigation. Guideline limits on the treated wastewater quality are in agreement with the Cypriot wastewater reuse standards and they are stricter than those proposed by the World Health Organization (WHO). We are going to present all physical parameters of the aquifer enrichment facilities, including geological and hydrological properties of the aquifer. Also we will present the quality of the treated sewage effluent and the groundwater prior and after the treated effluent infiltration.

Keywords: wastewater, infiltration, re-use water