

ABSTRACT

Pollution and limited access to available water resources are some of the major challenges facing the Palestinians in the West Bank and Gaza Strip. Arid to semi-arid conditions, overexploitation, mismanagement of water resources and being shared with regional countries caused complex but intrinsically inter-related problems of supply, demand, ownership and water quality.

The Jericho Water Treatment Plant (JWTP) is providing drinking water for almost 5,000 inhabitants living in Aqbat-Jabr refugee camp. Recent studies revealed microbial and chemical pollution of the main canal feeding JWTP especially during winter season. As a natural resource and basic element of Palestinian environmental resources, decisions affecting upgrading the current water treatment plant and the quality of the feeding inlet should be based on proven scientific understanding. The study was conducted to provide information about Al Qilt drainage basin including types and possible sources of pollutants.

The system is composed of two major tributaries; Fara and Sweanit that form the main stream. Wadi Al Qilt is formed after the combination of the tributaries with the discharge from Ein Al Fawwar and Ein Al Qilt springs. In order to assess the water quality of Wadi Al Qilt drainage basin, sampling stations were assigned along the path of the wadis starting from Al-Bireh Wastewater Treatment Plant (AWWTP) to JWTP inlet, and samples from the five springs were analyzed to determine their

quality as well. Chemical, physical, biological and hydrobiological studies were conducted between November (2004) and July (2005) in Wadi Al Qilt drainage basin.

Results revealed major trends for most of the measured parameters; decreasing the concentration of various parameters as going from AWWTP to the open transportation canal where the factor behind that is the dilution process resulted from springs' discharge that ends up in the wadis forming Wadi Al Qilt.

Results showed higher concentrations of lead and cadmium than allowable for drinking water in three spring samples, whereas, five samples out of ten were contaminated with fecal coliform, which indicate the presence of pollution sources in the recharge area. While results showed three samples from wadis were contaminated with aluminum, cadmium and lead, and all samples were microbially contaminated.