Salinity plays an important role in water resources developments and management throughout the world, particularly in arid and semiarid areas. Salinisation of groundwater in arid and semiarid regions, as a limiting factor, has a strategic importance. The largest source of Cl− in the Earth’s crust is the mineral halite in evaporite deposits, which formed over geologic time by the evaporation of seawater. The salinisation of groundwater is one of the major causes of water-quality deterioration affecting the sustainable use of groundwater, since it places limitations of the use of the water for urban water supply and agricultural use. Salinity is an important determinant of the suitability of water for drinking, irrigation and industrial users. The chemical quality of groundwater of Bushehr, south west of Iran was assessed for its suitability for drinking purposes. Hydrogeochemical studies were carried out in this area with the objective of identifying the geochemical processes and their relation to groundwater quality. A total of 19 water samples were collected from aquifer. The water samples were analysed for different physico-chemical properties, e.g., pH, total dissolved solids (TDS), total hardness (TH), calcium, magnesium, carbonate, bicarbonate, sulphate and chloride concentrations. In this study, the average TDS content was greater ranging 4,419 to 10,066 mg/l and other important parameters of water, e.g., TH (1,200—3,500 mg/l) and chloride (1,046—3,855 mg/l), were also higher than maximum permissible limit by WHO. On the basis of major elements concentration, study area showed total collected samples unsuitable for drinking purposes.

Keywords: Chemical quality, evaporation, salinity, TDS, TH

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