

ABSTRACT

Water is an essential source of sustaining life and used in generating electricity, agriculture, industry, and the daily domestic uses. This study was prepared to determine the water consumption of Anbar Province in the west of Iraq according to agricultural, industrial, and domestic demand. In addition, the study is evaluating the expected future water consumption by demand sites within study area. The results showed the domestic water demand will increase by 32% from 267.30 million m³ /year in 2021 to 352.70 million m³ per year in 2035, with a deficit of 24.5% in the year 2035. Furthermore, the study had appeared the agricultural demand was 1404.38 million m³ /year according to the limited cultivated area, which equals 42.93% from the total available area of 221,250 hectares. The agricultural demand increases to 2611 million m³ /year when uses all available area, and this cause occurs deficit in water demand reach to 1591 and 1715 million m³ /year in the years 2030 and 2035 respectively. In contrast, the study referred to necessary apply other irrigation methods as drip and sprinkler irrigation, which has high irrigation efficiency. In addition, using lined channels and pipes to transport water to reduce losses by leaching and evaporation