

101

Water harvesting estimation using GIS in Bet Alroush

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Abstract

The last two years witnessed the establishment of many earth fill dams in some of the west bank locations. This study aims to estimate the volume of the harvested water in the watershed area feeding the earth fill dam established in Bet Alroush village away from the existing capacity of the dam which is depending on the height and the area of the lake behind the dam, Bet Alroush lies in semi-arid area and the estimated amount of the surface runoff depended on analyzing the rainfall records of 7 years since the rainfall is the only source of water in this watershed area, the GIS was used to determine the amount of the runoff depending on the curve number technique based on Antecedent Moisture Condition(AMC) method with the combination of land use, land cover and hydrological soils group. Finally, the results of this study showed that the amount of harvested runoff lie between (0.40 -1.41) Million cubic meters depending on the frequency and the magnitude of the rainfall storms in winter season.