عنوان مقاله:

Hydrogeological framework and water balance studies in Astaneh-Kouchesfahan Plain, Iran

محل انتشار:

اولین کنفرانس بین المللی منابع آب با رویکرد منطقه ای (سال: 1388)

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خلاصه مقاله:

In this research, detailed regional climatological, geological and hydrogeological investigations were performed to develop a conceptual model of the groundwater system in Astaneh-Kouchestahan plain, north Iran. The outcomes of the study are likely to be useful for the planning purposes. This study deals with the estimation groundwater budget of alluvial aquifer in order to assess the feasibility of the aquifer development. Average annual water balance has been calculated for the whole region. Recharge and discharge components have been quantified. Recharge components consist of rainfall, recharge due to irrigation return, sewage return, lateral subsurface inflow, and influent seepage from rivers. Discharge components include evapotranspiration from groundwater table, groundwater draft, lateral subsurface outflow, and effluent seepage to the rivers. It is found from detailed water balance study for the area that discharge from groundwater is less than recharge to the area. The total recharge in to the aquifer is of the order of 390.29 million m3 and discharge from the study area is of the order of 350.77 million m3, leaving a surplus balance of 39.52 million m3. Therefore, based on present status of groundwater, the most of the plain would be more subject to water logging and soil salinity causing by high levels of groundwater. Also water budget suggests that extraction at the present rate is not sustainable over the long term and the aquifer development is essential to lowering groundwater .levels is critical area

کلمات کلیدی:

Hydrogeology, Groundwater balance, Recharge, Water budget, Iran