Main theme	Sub - Theme	Code Number
Natural Resources	Water - Hydrology	3

Study Name	**Environmental and Geochemical aspects of soil and Groundwater Resources in North- east Mafraq- Jordan**
Author	Hashem Ahmad AL- Zubi
Date of Study	2000
Objectives	The aim of the study is to evaluate the effects of the intensive agricultural activities and the associated overexploitation of the groundwater on soils and the shallow aquifer. The study area is located at the northern-east of Jordan and comprises about 1300 Km^2. the annual rainfall in the area rages between 200 mm/ yr in the west northern parts to less than 100 mm/yr in the east southern parts. It is located at the transition zone between semiarid to arid climate
Output and Recommendation	Detailed remote sensing and GIS studies should be carried out to monitor the risk of desertification of the soil –salinity hazard and erosion. Pumping of water from the study area must be properly managed. Pumping should be regulated. A regulation scheme is necessary. Detailed and careful investigations should be carried out to show the effect of the human activities on the groundwater quality particularly in the northwestern part of the study area. Controlling dry land salinity by planting trees, such as balm, olives, barely, chickpeas and Mudar plant, and environmental impact assessment should be carried out in the study area to monitor the issues, that effects the water qualities of the under ground water and its consequent effect of the soil salinity.
Development Aspects	The soil of the study area was classified as a weak aridic regime (Xeric-Aridic) three types of agricultural land use have recognized in the study area, nomadic grazingm, dry farming with winter cereals (Wheat and Barely) and irrigated farming based on groundwater irrigation, therefore; this study is recommended of using many different techniques such as using remote sensing and GIS applications in order to reduce the risk of desertification of the soil and salinity control and erosion particularly in the study area and recommended a regulation scheme for pumping the water from the ground water and encouraging planting of blam, Olives, Barely, chickpea and Muder plant to control and manage the soil profiles into study of the area. There is a need to make environmental impact assessment to monitor these mentioned issues.
Remarks	Submitted to the collage of Science, University of Baghdad, in Partial fulfillment of the requirements for the degree of Doctor of Philosophy in Environmental Geology https://doi.org/10.46717/igj.57.2A.19ms-2024-7-29