

Climatic and Human Impact on Karst Aquifer in Semi Arid Zone

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Abstract : The study site is the plateau Cheria, a city in south eastern Algeria (Tebessa) thanks to its structure perched syncline is the region of Tebessa a real water tower. Special rates provided by some boreholes and wells around the city Cheria have long been led to believe that the reserves were virtually limitless. The investigations carried out in this region have located karstified limestone areas at depth of 100 meters of the carbonate formation. During the last two decades a rainfall deficit has increased the effect of drought has caused an increase in flow from this aquifer. The effect on water resources is a significant and progressive reduction of the static level of the karst aquifer. The qualitative aspect has also been marked by degradation. This climate variability marked by the decade of drought (1990/2000) has had the effect on the local population, a forced change of their activity primarily agricultural. Abandoning agro pastoral mode due to prolonged drought, populations chose agriculture maraichère consumer a lot of water, this increasing the depletion of water resources. This change in activity was accompanied by a rural exodus to urban areas. The result has led to an increase in population in the urban areas, this has resulted in an increase in water demand and an increase in emissions (waste water). Uncontrolled discharges contribute to pollute a little more groundwater. The second consequence is type Geotechnical, it is the appearance of sinkholes, results of the alternating periods of drought and violent floods. Sinkholes are a real concern for the management and urban development. An interdisciplinary contribution (geology, hydrology, climatology and management) is essential to reduce or avoid impacts in different sectors.

Keywords : aquifer, carbonate formation, drought, exodus, resources, chéria, Algérie

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