

# CONTRIBUTION OF MANAGEMENT OF THE GROUNDWATER AT THE DAKHLA BAY

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The aquifer of Paleogene-Cretaceous is the most important water resources, by its size and its capacity, in the Sahara Hydrologic Basin, southern Morocco. Its extension is about 110,000 km<sup>2</sup>. The deep aquifer is fossil with a very low rechargeable. This is confirmed by groundwater depletion in heavy isotopes. The reservoir reaches 10 bar in artesianism and 82 °C. In the area of Dakhla (southern Morocco), the deep aquifer of The Paleogene is the only source used for all sectors. It's encountered at depths ranging from 150 to 400 m. It is generally artesian. This is a groundwater considered as fossil, which water is practically non-renewable because of the low rainfall (30mm). Drilling has high productivity, operating flow vary from 5 to 40 l/s. The water quality is about (2 to 3 g/l). The geophysical data have resulted a good property of the geometry of the Aquifer. Geostatistics, especially kriging, led to a better interpolation electric surveys, the top varies between the altitudes 44 and -525, and the bottom between 50 and -740. The established numerical model is consistent with the observations made in the field and it has been used in conditions of permanent and transient. The correlation is quite satisfactory with a margin of 0.5bar, simulations have provided a better understanding of the local water supply. Future scenarios were used to determine the impact of flow levied on the piezometric evolution of the web. The increase in irrigated area up to 150 ha years the scenario that will have the greatest impact, the groundwater level can reach 10m in 2025, But the use of unconventional resources can remedy this situation.

