

# INTRODUCTION

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### **1 General outline:**

Groundwater of the Quaternary aquifer in the Nile Delta region is important water supply for different purposes. The continuous development and the increase of population caused negative impacts on groundwater quality. Such negative impacts arised from different pollutants of agricultural, domestic, and industrial origin. On the other hand, surface water is subjected to pollution problems. Groundwater protection from pollution requires special attention for maintaining durable development of the groundwater resources.

### **2 Location:**

The area under investigation lies in the southern and southeastern parts of the Nile Delta to the east of the Damietta branch (mainly El-Qaluobiya Governorate). It is bounded by latitudes  $30^{\circ} 07'$ ,  $30^{\circ} 34'$  N and longitudes  $31^{\circ} 05'$ ,  $31^{\circ} 20'$  E (Fig.1).

### **3 Previous work:**

The geology of the Nile Delta area was studied by many authors among them are Hume (1925), Attia (1954), El-Shahat (1968), El-Shazly et al., (1975), Zaghloul et al., (1977), Rizzini et al., (1978), Ross and Uchupi (1979), El-Awady et al., (1981) Said (1981), Mart (1984), Deibis et al., (1986), and Sestini (1989).

The hydrogeology and hydrogeochemistry of the Nile Delta aquifer are studied by many authors, among them are Zaghloul (1959), El-Fayoumi (1968), Shata and El-Fayoumi (1970), Amer et al., (1978), Atta (1979), Faried (1980), Diab and Saleh (1981), El-Ghandour et al., (1983),

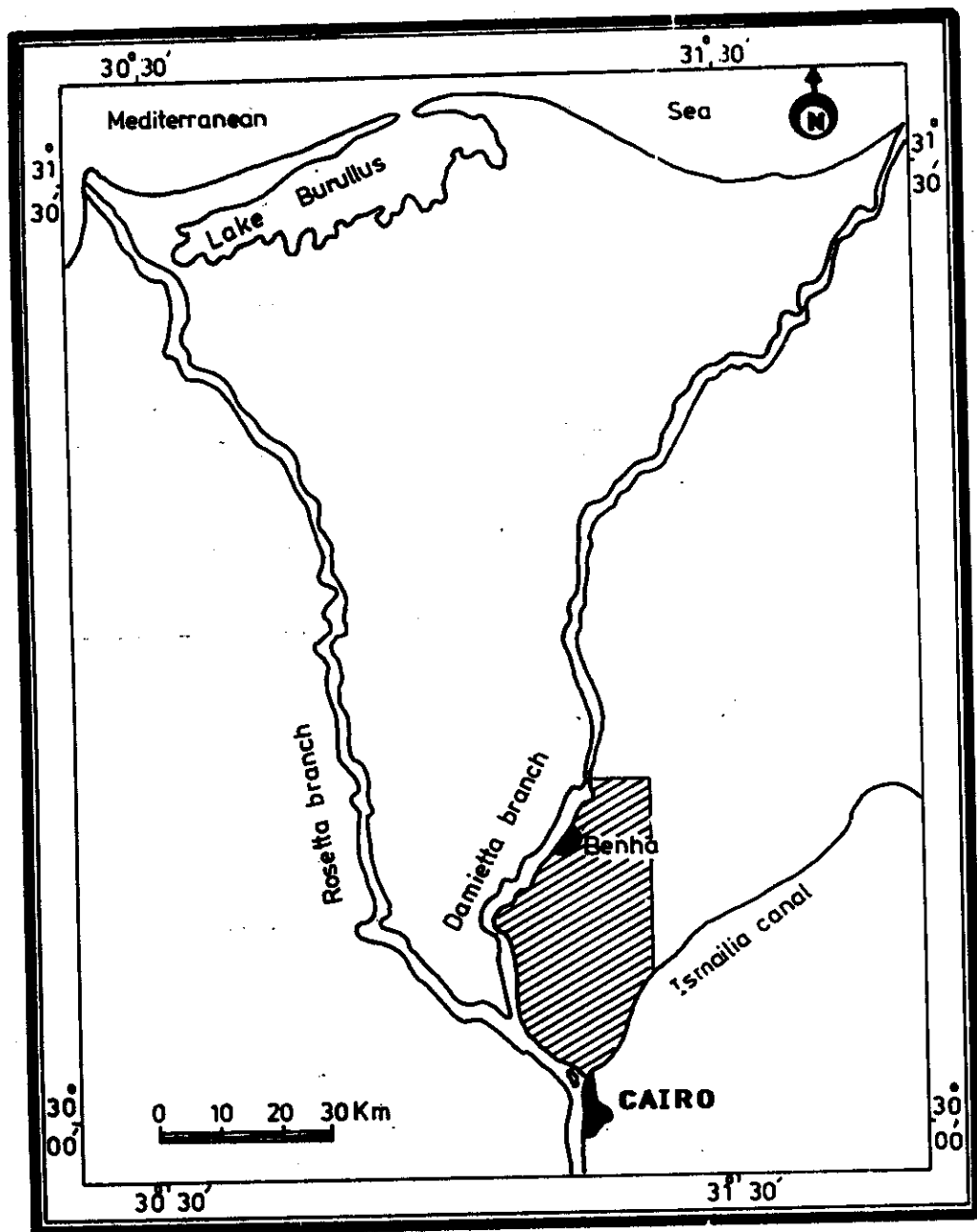


Fig.( 1 ): Location map of the study area