# INTRODUCTION

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## 1.General Outline:

Groundwater is one of the most valuable natural resources. Surprisingly, for a resource that so widely used and so important to the health and to the economy of the country, the occurrence of groundwater is not only poorly understood but is also, in fact, the subject of many widespread misconceptions. Common misconceptions include the belief that groundwater occurs in underground rivers resembling surface streams whose presence can be detected by certain individuals. These misconceptions and others have hampered the development and conservation of groundwater and have adversely affected the protections of its quality. The developing countries are vitally concerned with national development. Consequently, they are much more concerned with economic development than environmental control. However, it should recognized that there is a trade-off when the priorities of uses of the environment changes with the stage of development of the country and the environmental quality requirements of the uses tend to become more stringent as the economy improves.

Economic development with no environmental control leads to ecological and environmental impacts, which reduce the quality of life. The major impacts of development activities should be assessed and environmental management strategies be drawn for balanced development. In order to receive maximum benefit from its groundwater resource, it is essential that anyone, from the rural homeowner to managers of industrial and municipal water supplies to heads of the

Egyptian Environmental Affairs Agency, become more knowledgeable about the occurrence, development, and protection of groundwater.

The north of Giza Governorate presently is fast urban growth with uncontrolled rates. This is reflected on a great shortage in water supplies especially during the summer time. The population density in the whole Governorate that was 220,000 persons in 1947, became 1,850,000 persons by the year 1982 and is expected to reach 3,000,000 persons by the end of this century (Draft final Plan Giza South, 1983). To meet the increasing demands of water at the north of Giza Governorate, intensive studies, to evaluate the Quaternary aquifer, are urgently needed in order to provide the expected population density with a comparable sufficient quantity of water. This water should have good qualities to meet the requirements of public health and human usage. To achieve this goal approximately 800,000 $m^3$/day of water are required above the quantity presently supplied. In order to ascertain, whether this additional demand for water can be covered by ground water, the study has been started. Its aim to investigate the main factors affecting groundwater quantity and quality. The increasing demand for potable water to supply domestic and commercial needs has necessitated the growing use of ground water, along with other sources, due to the flexibility and low costs of production and their high reliability during emergencies.

Tabark area represents as one of land reclamation projects on both sides of Cairo-Alexandria Desert Road that has been accelerated during the last decade. Groundwater plays an essential role for satisfying water requirements for different purposes. Groundwater discharges in and around Tabark area exceeds natural recharge, thereby causing a water lowering and water deterioration.