STUDY AREA

During the present investigation Aurangabad city from Marathwada region of Maharashtra states was selected for monitoring the water quality of groundwater resources. Aurangabad is a headquarter of Marathwada region of Maharashtra state with historic background. It is situated at latitude 19° 53’ 59” north and longitude 75° 20’ east (Plate-1). The city established on the banks of the Kham River. Topographically it is located in the valley region between the Chauka hills on the north and Satara hills on the south. The valley has a breadth of about 15 km and open towards the east which has facilitated for the extension and development of new settlement. Ajantha and Ellora caves have put the city on the tourist map of the world. It is the cultural, religious, educational and industrial center. The average altitude of the city is about 581 m above mean sea level.

Aurangabad has hot summer with May as the hottest month, when the ambient temperature crosses 40°C. The winter months are pleasantly cool when the temp drops to between 10°C and 15°C. The humidity is rather low except during the monsoon month. December is the coldest month. The annual average normal rainfall is about 726 mm in Aurangabad.

The area of Aurangabad city is about 138 Sq.Km. The population of Aurangabad city was 29000, 5, 73,272 and 8, 72,663 as per 1931, 1991 and 2001 census respectively. Presently, the population of Aurangabad city is about 11 lakh (AMC, 2006).

Aurangabad Municipal Corporation consists of six wards (98 electoral wards). The survey was conducted in these six wards by preparing a questionnaire to get the information about the tube wells and bore wells in the wards and health problem associated with them due to deterioration of underground water quality.
The selective underground water resources from Aurangabad city were selected by using random sampling technique and on the basis of data generated from the questionnaire method during survey period for assessment of potability of underground water resources. The groundwater quality of six different wards viz. A, B, C, D, E, and ward F were undertaken. Five sampling sites were selected from each ward. The locations of study area (Plate-1), location of sampling sites are depicted in ward wise maps (Plate-2, Plate-3 and Plate-4). The photographs of some representative sampling sites are given in Plat-5. The list of selected sampling sites is summarized in Table 2.1.