



and northeast developmental orientation, facilitated by emergence of National Highway No 8, Railway and Airways. NH76 and SH9 connect it with Chittorgarh and Banswara-Mount Abu shattering its inaccessibility.

**FIGURE 2.2: UDAIPUR IN RAJASTHAN**

**TABLE 2.1: DISTANCES FROM OTHER URBAN CENTERS**

Source: Census of India, 2001.

| S. No |           | Distance in Km |
|-------|-----------|----------------|
| 1     | Ahmedabad | 252            |
| 2     | Baroda    | 312            |
| 3     | Jodhpur   | 260            |
| 4     | Kota      | 270            |
| 5     | Jaipur    | 405            |
| 6     | Delhi     | 664            |
| 7     | Mumbai    | 797            |



### 2.1.2 Climate

Climate is a composite idea, a generalization of the manifold conditions from day, throughout the year. It is permanent and unalterable factor of the physical environment affecting human life in multiple ways. Its effects are on a micro scale; the local environmental differences being more due to the important climate elements temperature, rainfall, wind, sunshine and rate of evaporation grossly determine biots of a region.

#### 2.1.2.1 Temperature

The city has moderate climate, with temperature ranging from 1.2<sup>0</sup> C to 46<sup>0</sup> during past two decades. Table 2.2 shows the temperature variation during last seven years.

**TABLE 2.2: TEMPERATURE TRENDS**

|             | Maximum Temperature | Minimum Temperature | Average Temperature |      |
|-------------|---------------------|---------------------|---------------------|------|
|             | 41.1                | 3.4                 | 24.1                | 56.0 |
| <b>1998</b> | 45.0                | 1.4                 | 25.1                | 52.0 |
| <b>1999</b> | 43.9                | 2.9                 | 25.3                | 50.0 |
| <b>2000</b> | 43.8                | 2.4                 | 25.5                | 47.0 |
| <b>2001</b> | 43.8                | 2.4                 | 25.5                | 47.0 |
| <b>2002</b> | 44.6                | 3.0                 | 25.7                | 50.0 |
| <b>2003</b> | 46.0                | 3.2                 | 25.7                | 49.0 |

### 2.1.2.2 Rainfall

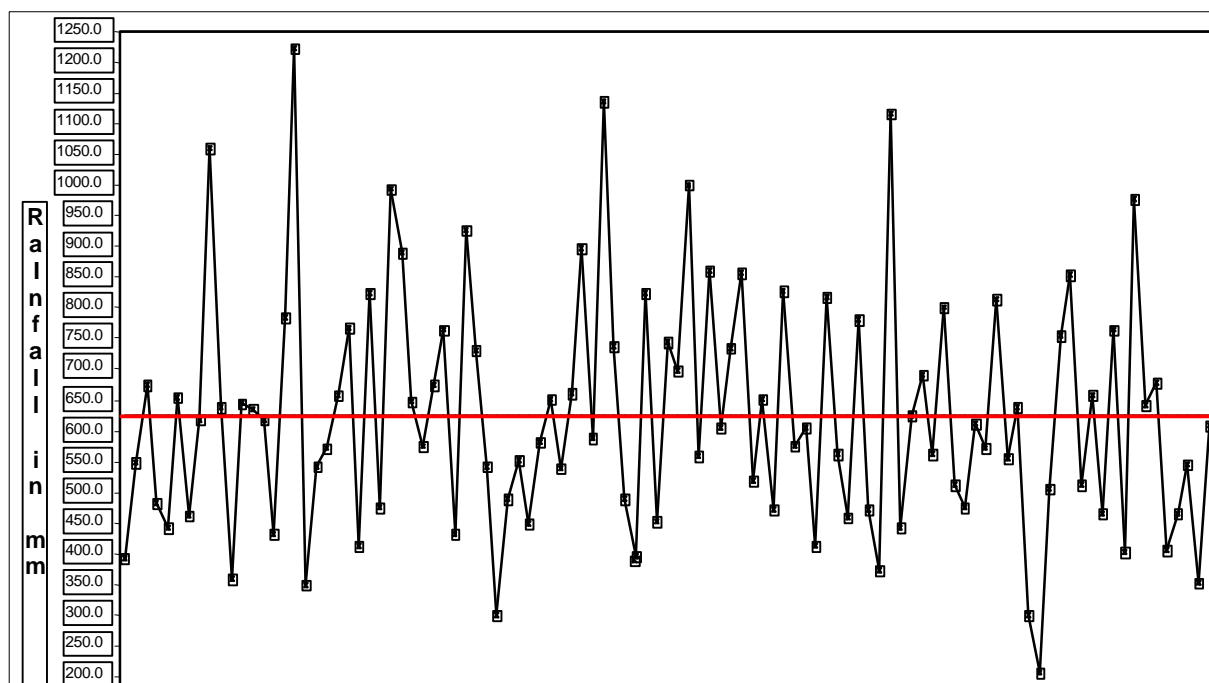
The catchments area is characterized by sub humid climate with an average annual rainfall of 641.63 mm. received mainly during monsoon months of June to September. Rainfall occurs mostly through southwest monsoon. The distribution of rainfall is uneven over the years and there is a wide variability between ‘year to year’ rainfalls. Indicates data on rainfall for the last 100 years there are 42.92 annual mean rainy days where as annual rainfall comes to 641.63 mm. the area experienced minimum rainfall of 200 mm in 1986 and maximum of 1222.76 mm in 1977. Monsoon starts from June and remains active up to September to yield 90.64% rainfall. The relative humidity fluctuates from 75-100% in July-August to 30-35% April-May.

**TABLE 2.3: ANNUAL RAINFALL**

| Sr. No. | Year / Center | Normal Rain | Actual Rain | Difference (+),(-) |
|---------|---------------|-------------|-------------|--------------------|
| 1       | 1997          | 62.45       | 65.22       | (+) 2.77           |
| 2       | 1998          | 62.45       | 66.73       | (+) 4.28           |
| 3       | 1999          | 62.45       | 43.42       | (-) 19.03          |
| 4       | 2000          | 62.45       | 39.99       | (-) 22.46          |
| 5       | 2001          | 62.45       | 63.33       | (+) 0.88           |
| 6       | 2002          | 62.45       | 38.77       | (-)23.68           |
| 7       | 2003          | 62.45       | 65.80       | (+)3.35            |
| 8       | 2004          | 62.45       | 63.45       | (+)0.10            |

Source:

**FIGURE 2.3: RAINFALL TRENDS**



### **2.1.3 Geology and Soils**

Lying on the eastern flank of Aravali, the rocks in this basin belong to the Archaen and pre-Cambrian times. Running across the heart of Rajasthan State from Delhi in the northeast to the Gulf of Cambay, in the southwest, it is nearly 602 kms long.

Soil is another basic component of the ecosystem. The whole life system of a region depends upon the soil composition and its richness. The region formed the essential part of the most ancient Gondwana tableland of the peninsular India. The main rocks of the area is phillitines and quartzite. The western hilly and central hilly parts of the basin are generally occupied by yellowish brown colored soils. The plane regions of inner Girwa and outer plain are covered by heavy textured soils with clay contents varying between 20 to 30 percent. Thickness of soils cover too varies significantly.

In different valley section thickness is quite high ranging between 2 to 6 meters. The fertility of the soils is medium and soils have good retention capacity. In the foot hills the soils are shallow to moderately deep.

### **2.1.4 Earthquakes**

Udaipur city lies in low damage risk zone with MSK VI. It is about 100 kms away from moderate risk zone passing through western part of the district. The city is less prone to earthquake as it is located on relatively stable geological unit of Aravali.

### **2.1.5 Natural Drainage**

Natural drainage in a given region is flow of water, with a system of tributary growth. Udaipur region is drained by Ahar River (also known as Ayad River), Main River of the region. It is joined by a number of tributaries at different point forming a dendrites pattern. Ahar is a seasonal rain fed river. It originates from a 991-meter high hill in northeastern part of Gogunda plateau and flows in southeast direction.

The original natural drainage of Udaipur has experienced man's interference. Control and modification resulted in emergence of worldwide well-known lakes such as Pichola, Fateh Sagar, Swaroop Sagar and Rang Sagar.

MAP 2.1: AHAR RIVER DRAINAGE SYSTEM

