

# **Plants in the Arabian Desert**

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### **The desert in the Arab world**

#### **What is the Desert**

It is customary to define deserts as dry areas in which there is no vegetation or water. Thus, the definition of “desert” seems straightforward. However, defining the scientific concept of the desert is not such an easy matter, due to the different views of people with different disciplines, for each has their own view related to their specialization and craft:

- The botanists believe that the characteristics of vegetation are the defining criterion for their concept of desert. The most prominent of these characteristics are that the scattered plants and short, spaced shrubs have both anatomical and external characteristics that enable them to withstand drought.
- Soil scientists, on the other hand, are interested in soil types and color, geological history of sediments, and other factors.
- The climate scientists are concerned with the movement of dry air masses and temperatures, the amount of precipitation, and other climate factors.

Scientists have developed a set of equations linking all the variables and previous criteria, all of which are correct criteria, despite the fact that there is no consensus on a unified definition of desert. However, a more helpful definition of desert can be summarized as follows:

- The desert is the area where water resources are much less than the ability of evaporation factors to dry them up (represented by the lack of rain, its irregularity, and the intensity of evaporation). The desert areas witness a great difference in temperature between day and night, and summer and winter, and the soil is characterized by a lack of organic matter. This is reflected in the vegetation, which appears scattered, while the presence of large trees is rare. The desert is characterized by the presence of vast areas completely bare of vegetation.

### **Division of the Desert in the Arab World**

As mentioned above, the desert is classified according to different criteria, which may relate to the temperature or to the amount of rain available.

Therefore, deserts in the Arab world can be divided into three categories:

- **Very dry desert:** Rain is only a phenomenon that recurs annually and is less than 100 millimeters per year.
- **Dry deserts:** Rain is frequent annually, but irregularly, and does not exceed an average of 100 millimeters per year, according to some classifications. There are other classifications that say that it does not exceed 250 millimeters per year.
- **Semi-arid deserts:** In which the average annual rainfall exceeds previous rates, sometimes reaching more than 250 millimeters per year.

It is interesting that the very dry desert occupies a large part of the Arab world, represented by the Sahara Desert, which includes Mauritania, Morocco, Algeria, Tunisia, Libya, and Egypt, and the Empty Quarter desert in the southeast of the Arabian Peninsula.

As for the dry desert, it includes a large area surrounding the extremely dry desert in all Arab countries, and rainfall does not exceed 100 millimeters annually.

As for the semi-arid deserts, they are represented in the highlands of northern Iraq and some areas in Syria, Jordan, Lebanon, Yemen, some areas in Sudan, and the coastal areas in Egypt, Libya, Tunisia, and Algeria.

### **Plants in the Desert**

The plant life in the desert is related to the amount and distribution of rain. Plant life is the origin of life in the desert. We may sense this when we look at the Bedouins; the first thing they ask for is grass, pasture, and rain, for there is no room for life in a land that does not contain these components.

### **The Division of Vegetation in the Desert**

- **Emergency Vegetation:** This is represented by the annual plants that appear in the rainy periods in very dry areas. These annuals are soon blown away by the wind during the dry season, as is the case in the Empty Quarter desert and the Great Sahara in Africa.
- **Vegetation Limited to Low-Lands:** These plants are found in valleys, waterways, and depressions into which surface water – from rainwater – flows from high mountainous areas, passing down the slopes and

gathering in these low-land areas. Here, a quantity of soil accumulates, after being carried by surface runoff water and the winds, in the areas where vegetation grows. This type of vegetation is widespread in dry deserts.

- **Dispersed Vegetation:** This is evident in regions that receive relatively abundant rainfall, such as semi-arid desert regions.

In addition to the above, a group of less prestigious plants, including lichens, mosses, fungi, and bacteria, are found in most desert environments. Lichen is a mixture of algae and fungi found on rocks and tree stumps.

Perhaps the depth of the soil, the amount of rain, and the geological nature of the place are what determine the quality and diversity of plants, and their presence or absence in the various types of area, hence the different uses of plants depending on their presence in different regions.