

Irrigation Techniques and Underground Wells

Because water was so scarce in the desert regions of the Islamic Empire, Muslims developed ingenious irrigation techniques and utilized underground wells. Dams, reservoirs, and aqueducts were constructed throughout the Islamic Empire as early as the tenth century. Muslims also perfected the water wheel, a technique that could be operated by man, animals, or the wind. When an upright pole connected to a series of geared wheels was turned, four water scoops, rising one after another, emptied their contents into a canal. Both the Umayyad and Abbasid rulers preserved and improved the series of underground wells used to irrigate fields. Underground wells were placed as much as 50 feet deep in order to tap underground water sources and to keep water loss through evaporation (change from a liquid to a vapor) to a minimum. Much of the agriculture of the Islamic Empire was dependent on irrigation techniques and underground wells, as were most of the Muslim people.