

## Ancient Iran Water Technologies

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**Abstract :** The history of human access to water technique has been one of the factors in the formation of human civilizations in the ancient world. The technique that makes surface water and groundwater accessible to humans on the ground has been a clever technique in human life to reach the water. In this study, while examining the water technique of ancient Iran using the Qanats technique, the water supply system of different regions of the ancient world were also studied and compared. Six groups of the ancient region of ancient Greece (Archaic 480-750 BC and Classical 223-480 BC), Urartu in Tuspa (600-850 BC), Petra (106-168 BC), Ancient Rome (265 BC), and the ancient United States (1450 BC) and ancient Iranian water technologies were studied under water supply systems. Past water technologies in these areas: water transmission systems in primary urban centers, use of water structures in water control, use of bridges in water transfer, construction of waterways for water transfer, storage of rainfall, construction of various types of pottery- ceramic, lead, wood and stone pipes have been used in water transfer, flood control, water reservoirs, dams, channel, wells, and Qanat. The central plateau of Iran is one of the arid and desert regions. Archaeological, geomorphological, and paleontological studies of the central region of the Iranian plateau showed that without the use of Qanats, the possibility of urban civilization in this region was difficult and even impossible. Zarch aqueduct is the most important aqueduct in Yazd region. Qanat of Zarch is a plain Qanat with a gallery length of 80 km; its mother well is 85 m deep and has 2115 well shafts. The main purpose of building the Qanat of Zarch was to access the groundwater source and transfer it to the surface of the ground. Regarding the structure of the aqueduct and the technique of transferring water from the groundwater source to the surface, it has a great impact on being different from other water techniques in the ancient world. The results show that the use of water technologies in ancient is very important to understand the history of humanity in the use of hydraulic techniques.

**Keywords :** ancient water technologies, groundwaters, qanat, human history, Ancient Iran

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