

Great Wall of Gorgan; an engineering landmark of northern Iran

Walls have always been crucial defensive elements for cities, serving as barriers against enemy invasions. Among the most renowned walls in the world are the Great Wall of China, Germany's White Wall, and the Great Wall of Gorgan, also known as Iskander's Great Wall or the Red Wall. This structure is recognized as a National Heritage Site in Iran. Historical texts refer to the Great Wall of Gorgan as the 'Red Snake,' highlighting its strategic location. Unfortunately, much of the wall has succumbed to time, with only small remnants buried beneath the soil.



Dimensions and construction

Estimates regarding the length of this ancient structure vary; some historians believe it stretches to approximately 180 farsang, an old Iranian unit of measurement equivalent to 6.24 km. Many scholars propose that this wall is part of an even larger fortification system. The Great Wall of Gorgan is approximately 200km long, with a width ranging from two to ten meters and a possible height of six to eight meters. It was primarily constructed from red bricks measuring 40x40x10 cm, held together with lime mud mortar, and, in some areas, sarooj (a traditional Iranian cement). The wall features intricate plaster decorations throughout its length. Additionally, the wall was supported by related defensive structures, including moats, forts connected to the wall, brick kilns, earthen dams, water supply channels, and the castles of adjacent cities on both its northern and southern sides. In terms of fortifications, the Great Wall of Gorgan is considered more advanced than the Great Wall of China.

Construction materials and archaeological discoveries

There are several theories regarding the materials used in the wall's construction. While some suggest stone and lead, others propose combinations of brick and lime, brick and plaster, stone and plaster, or even marble and baked clay. Excavations in the village of Gogieh (north of Kalaleh) reveal sections of the wall constructed with large bricks. Research conduct-



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ed by archaeologists from the universities of Edinburgh and Durham indicates that tens of millions of bricks were utilized in its construction, supported by numerous kilns and brick-making workshops along and near the wall. This suggests a comprehensive industrial operation was involved in building the Great Wall of Gorgan. It is estimated that approximately 30,000 soldiers could be stationed along its length.

Historical context

Throughout history, human lives have been affected by various adversities, prompting the development of solutions to mitigate these risks. Natural disasters and human conflicts in ancient times could devastate communities and erase signs of civilization. Consequently, implementing preventive measures to protect against potential dangers has always been paramount. The Great Wall of

Gorgan stands as a testament to these defensive strategies.

Geographical location

The Great Wall of Gorgan extends from the Caspian Sea in the Gomishan area to the Golidagh, northeast of Kalaleh. The railway line from Gorgan to Central Asia intersects a portion of the historical wall, effectively dividing it into two halves. Geographically, the wall is situated in the mountainous and expansive plains of Gorgan, located in the modern-day Turkmen Sahra region. The Gorgan River, known as the longest river in Golestan Province, flows in an east-west direction along the southern side of the wall, playing a significant role in its construction.

Builders

Most historians attribute the wall's construction to Anushirvan, a king of the Sassanid Empire. Some sources suggest that Yazdgerd I, another

Sassanid king, initiated the project, which Anushirvan later completed. It is widely accepted that the wall was built to deter invasions from desert tribes. Many experts believe that the Great Wall of Gorgan was constructed around the same time as the Great Wall of China.

Historical conflicts and strategic importance

Archaeological studies, including samples and tests of remaining ashes and coals, suggest that the wall dates back to the 5th and 6th centuries CE during the Sassanid period. During this time, the Sassanid Empire was engaged in constant conflicts with the Eastern Roman Empire while also facing threats from the Huns and other northern tribes. As a result, the Great Wall of Gorgan served as a formidable barrier against these invasions, strategically positioned between the Caucasus Mountains and the Caspian Sea coastline.

Pirouz, the Sassanid king, spent time in Gorgan between 459 and 484 while fighting the White Huns. It is likely that he or another Sassanid king, either before or after him, constructed the Great Wall of Gorgan to protect the fertile plain of Gorgan, a strategically important area.

Military presence

The forts and barracks along the Great Wall of Gorgan indicate that it remained active for at least a century after its construction. Evidence suggests a military presence along the wall, although it was later abandoned for various reasons. Possible explanations for this abandonment include the need for more soldiers to confront the Byzantine Empire or to resist Arab attacks. Remarkably, the Great Wall of Gorgan is longer than Hadrian's Wall, which was built by Emperor Hadrian on the border between England and Scot-

land. Furthermore, this massive defensive structure predates most parts of the Great Wall of China by over a thousand years. Construction of the wall took approximately 90 years, and at one time, it was the longest brick wall in the world.

Legacy of Sassanid engineering

Iranian engineering during the Sassanid Empire was highly competitive with that of the Roman Empire and, in some aspects, even surpassed it. The first photographic documentation of this wall was made by American archaeologist Eric Schmidt in 1936 and 1937, who captured aerial photographs of ancient sites in Iran. In the Gorgan region, he documented a red wall stretching from the Caspian Sea to the Golidagh, which has since become a significant resource for both Iranian and foreign archaeologists studying this remarkable structure.



Fiery marvels of Tashkoo Mountain

Tashkoo Mountain in Ramhormoz, Khuzestan Province, is one of the most beautiful and astonishing natural phenomena in Iran, renowned for its unique display of flames erupting from the ground. The landscape features hills dotted with openings resembling springs, from which hundreds of flames continuously blaze. These flames have burned uninterrupted from the past to the present; remarkably, they do not extinguish in the rain — instead, they tend to flare up even more. The source of this fiery spectacle

lies in the sulfur-rich ground and the evaporation of natural gas from deep within the earth, which rises to the surface. Hydrocarbon gases traverse various geological layers, igniting as they escape through cracks in the ground, making the flames visible even at night. However, setting fires in the vicinity of Tashkoo is extremely dangerous due to the volatile gases present in the air. In addition to these fiery hills, the nearby Mamatyn village is home to numerous bitumen springs, where natural

bitumen seeps from the earth. Tashkoo is a notable tourist attraction, drawing many visitors, especially at night. The hills, adorned with hundreds of colorful flames, dazzle the eyes and require no assistance to access. The geotourism potential of this region has also captured the interest of many domestic and foreign geologists. Tashkoo is not the only tourist highlight in this region; there are many springs filled with natural bitumen instead of clear water, adding to the area's allure.

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