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Rao Jodha Desert Rock Park, Mehrangarh Fort, Jodhpur, India: A possible potential geoheritage site for geopark

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The foundation of world's famous Mehrangarh Fort of Jodhpur was laid on 12th May, 1459, by King Rao Jodha on a 120 m high rocky hill in the heart of the Jodhpur city, India. Geologically, this ridge is composed of rhyolitic rocks of Malani Igneous Suite of 680-745 MY at the base, and unconformably overlain by sandstone of Jodhpur Group of Ediacara age of the Marwar Supergroup. The Expousers of Unconformity is a popular tourist site as it marks the interface of volcano and marine sediments. Just at the foot Hill of Fort on the way to Chandpole at Singorio Ki Bari, a geopark is developing which is endowed with an excellent geological, hydrogeological, historical, architectural and rich lithophytes site, named as Rao Jodha Desert Rock Park. It was created by Mehrangarh Museum trust with our association since 2006 as a project to restore the natural ecology and geological features of large rocky tract. The park officially opened in February, 2011. Nowadays, it is a famous geotourist site in the Jodhpur. The aim of development of this park is also to give unique historical, geological, floral and hydrogeological knowledge of this place to educate students and tourists coming from abroad and from India. In the park, from the main gate to inside, the floor is built by the blocks of the Jodhpur sandstone having display of almost all varieties of ripple-mark sedimentary structures representing the marine paleoenvironment, with their specific hydrodynamic conditions of deposition of this sandstone of Ediacara period. In the second block, many different lithotypes (some of which are on the verge of extinction) brought from different part of Thar Desert are successfully growing with the aim to conserve them. From this block to about half a km there is a passage that goes to an ancient and unique water impounding structure built with Mehrangarh Fort, known as Ranisar and Padamsar. This passage is known as Hati Nahar (Elephant Canal). It was actually built by digging the sandstone (near Sursagar) and Rhyolite rocks (near and within park) having exposed many peculiar geological features showing nature of volcano of that time. Since long time, due to development activities and quarrying in the catchment area, there is no water flow in the canal. However, with time, it was filled by rocky boulders, pebbles and garbage with thick vegetation. To redevelop a passage up to Ranisar, it was cleaned to its original condition. Due to this excellent idea, tourists can reach here as the way through city is highly crowded, narrow and not open to vehicles. Now, it is an excellent walking trail or gully to reach to beautiful Ranisar – Padamsar (an oldest hydrogeotourism site in Jodhpur). The walking trail has excellent geological features in welded tuff, ignimbrite and rhyolitic rocks, which represent a variety of volcanic activities and volcanic events at and around Jodhpur at about 745 to 680 MY ago. As a whole, the Rao Jodha Desert Rock Park became an excellent educational center for students and tourist place to watch and enjoy its unique geological features in the rhyolite and sandstone along with hydrogeological features of Ranisar-Padamsar, with excellent representation of different lithophytes of the Thar Desert for the society. Every year, many students and tourists visit the park. This work presents historical, cultural and scientific aspects which will help to recognize it as world heritage site and a good geopark site for the society and for national and international tourists.

