

## **The role of community in developing Varkala Coastal Cliffs, exhibiting the Tertiary sequence of Warkalli Formation, India, as an ideal hotspot for geotourism**

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Varkala has a unique place in the geology and geomorphology of peninsular India because of the presence of coastal cliffs that expose the entire sequence of the Mio-Pliocene Warkalli Formation, and is declared as the type area for the same. The Geological Survey of India has recently declared the entire cliff as a 'Geoheritage Site'. These cliffs, edging the Arabian Sea, run for a length of 5.5 km. Unconsolidated sands, variegated clays, white plastic clays and carbonaceous sandy clays enclosing impersistent seams and lenses of lignite, are the lithology present in this area. The carbonaceous clay beds and lenses of peat have yielded a well-preserved palynoflora that includes pteridophytic spores, fungal remains and angiospermous pollen grains. There are numerous waterspouts on the sides of these cliffs. The presence of variegated sandstone endows beauty to these cliffs. The cliffs together with confined beaches make Varkala a beautiful tourist destination with a lot of tourist influx. The area is surrounded by historic, traditional and cultural centres. The backwaters of Paravur and Kappil, the protected fort at Anchuthengu, the pilgrim centres at Sivagiri and Papanasham, the TS canal (the once most important inland navigation system), the traditional coir products and fishing harbours and finally the proposed performing arts centre, centre for ayurvedic treatment and dolphin view point are the other major attractions of this area. Though the area fulfills all the criteria to be declared as a 'Geoheritage Site' of UNESCO, this highly urbanized area can be upgraded to the full potential of a geopark only by community involvement. This paper explains how the involvement of the community was won through a process of strong consensus to form a geoheritage site.

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