

Rapid visual screening of the precarious boulder at Parakovil, Thirumala, Thiruvananthapuram
Ref: Ltr. No. 6087/K1/2013/DMD dated 08-11-2013

Based on reference cited above, a visual screening of the rock blocks said to be detached in Parakovil, Thirumala (location: 76° 59' 21" and 8° 30' 26.8", elevation 80 m above msl), Thiruvananthapuram were carried out by Dr. Kesav Mohan, Director, ILDM; Dr. Sekhar L. Kuriakose, Head, HVRA Cell and Dr. Vijith H, Sr. GIS Specialist on 8th November, 2013.

The said rock is an inselberg, with multiple fractures, running multidirectional in orientation. On the top of the hillock, boulders of huge dimension which attached to each other were observed. The natives of the area described that the gap between the supporting rocks and over sitting rocks were enlarged and shown slight change in position of the boulders present. While inspecting it is noted that, all the hanging rocks and supporting rocks shows an inclination towards the sloping side and considered to be dangerous in nature. It is advised that proper management of these overhanging, fractured, inclined rocks should be needed to avoid any dangerous situations. The close examination of the fracture pattern present in the area, particularly in the rock, suggests safe removal of the material by an expert group. The area is highly populated and any down movement of these huge boulders cause severe damages to life and property.

Mitigation measures suggested

This office has resolved the following:

1. The precarious boulders on 'Parakovil' have to be removed. Note that it is not just one boulder that would be dislodged if a rockfall is triggered. The Parakovil area has numerous such rocks and many of them are prone to be dislodged. All these rocks may be removed at one go as the cost involved would also be lesser in doing so and the Government may benefit from auctioning the removed rocks.
2. We concur to the view of the District Collector that the removal of these rock boulders can only be done by the Engineers of Indian Army or professional private agencies who have the skills and facilities for controlled blasting or chemical breaking of such rocks
3. This office has contacted the Indian Army Station at Pangode. Lt. Col. Jaspeeth (0471-2576510) who is the nodal officer for calamity response in liaison with this office has visited the site on 8-11-2013 and is now attempting to arrive at a conclusion with the help of the EME (Electrical and Mechanical Engineers branch of Indian Army), Secunderabad
4. In case the EME is not willing to take-up the task, Shri. John Mathai, Scientist G, CESS has contacts of a professional agency based in Mumbai, capable of precision and controlled blasting, who may be engaged for the purpose in liaison with Shri. John Mathai
5. The funds required for the same may be met from the State Disaster Mitigation Fund, the very purpose of establishing which was to undertake this kind of mitigation activities.



The precariously posed boulder



The highly fractured joints probably with no anchor

