

Earthquake Hazards in Manipur: Casual Factors and Remedial Measures

Authors : Kangujam Monika, Kiranbala Devi Thokchom, Soibam Sandhyarani Devi

Abstract : Earthquake is a major natural hazard in India. Manipur, located in the North-Eastern Region of India, is one of the most affected location in the region prone to earthquakes since it lies in an area where Indian and Eurasian tectonic plates meet and is in seismic Zone V which is the most severe intensity zone, according to IS Code. Some recent earthquakes recorded in Manipur are M 6.7 epicenter at Tamenglong (January 4, 2016), M 5.2 epicenter at Churachandpur (February 24, 2017) and most recent M 4.4 epicenter at Thoubal (June 19, 2017). In these recent earthquakes, some houses and buildings were damaged, landslides were also occurred. A field study was carried out. An overview of the various causal factors involved in triggering of earthquake in Manipur has been discussed. It is found that improper planning, poor design, negligence, structural irregularities, poor quality materials, construction of foundation without proper site soil investigation and non-implementation of remedial measures, etc., are possibly the main causal factors for damage in Manipur during earthquake. The study also suggests, though the proper design of structure and foundation along with soil investigation, ground improvement methods, use of modern techniques of construction, counseling with engineer, mass awareness, etc., might be effective solution to control the hazard in many locations. An overview on the analysis pertaining to earthquake in Manipur together with on-going detailed site specific geotechnical investigation were presented.

Keywords : Manipur, earthquake, hazard, structure, soil

Conference Title : ICCSEE 2018 : International Conference on Civil, Structural and Earthquake Engineering

Conference Location : Prague, Czechia

Conference Dates : March 22-23, 2018