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Seismically induced liquefaction features in India: their genesis and significance in paleoseismic studies

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During past century several large to great earthquakes have occurred in the India. Depending on the ground conditions, they produced widespread liquefaction that is observed in the form of soft sediment deformation features in the mezoseismal region of the respective earthquakes. The liquefaction transforms the saturated granular material from solid to liquefied state as a consequence of increased pore water pressure produced by cyclic shear waves. A number of regional and local agencies play part in triggering the liquefaction. The one produced by earthquake wave (seismically induced liquefaction; SIL) on regional scale are significant for paleoseismic studies. We discuss a broad overview of characteristics, principle and processes involved in development of liquefaction features in sedimentary column during earthquake with examples from different documented earthquakes in India and their significance.

Keywords: Seismically induced liquefaction (SIL); Indian earthquake; Sedimentary column; Paleoseismic study.