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## Learning valuable lessons from the Latur earthquake

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On September 30, 14 years ago, a massive earthquake struck at Killari, a nondescript village in the Latur district of Maharashtra, in the early hours of the morning. An estimated 10,000 villagers sleeping in their dwellings in Latur and Osmanabad districts never saw the light of the day, literally that is.

Whatever has been the actual magnitude of the earthquake, differently put between 6.2 and 6.4 on the Richter scale, the fact remains that over 30 villages like Killari, Rajegaon and Sastur, were razed to the ground. This region in interior Maharashtra never had a history of major shocks.

The devastated villages have been put back on the rails in the years since then, thanks to unprecedented rehabilitation efforts undertaken by several national and international agencies. The Times of India group leading the pack through its Relief Funds, to give a fresh lease of life to an entire village, Chincoli Kate.

But the trauma still remains in the minds of survivors who were witness to the large-scale destruction the like of which they had never seen before. Latur and Osmanabad districts are located in Zone 1 of the seismic zones map of India that has been followed since 1972. This zone is supposed to be completely non-seismic, that is, free from earthquake occurrence and consequent damage. So, by one stroke, the disastrous earthquake brought under the scanner the seismic zones and the entire fraternity of geologists and seismologists.

However, it needs to be pointed out that earthquakes are a very complicated phenomenon and it cannot be said even today after several years of sustained research that all about them have been understood beyond doubt. In any case, the possibil-

ity of occasional shocks of magnitude 5.0 to 6.0 occurring even in Zone 1 on deep-seated local faults had been clearly foreseen by the geologists who had contributed to the earthquake zoning of the country

Therefore, the first lesson from the Latur quake is about the complexity of the earthquakes and the fact that all places on earth are seismic to some degree or the other. The earthquake maps are mere guidelines to the earthquake possibilities and are by and large quite correct.

The Latur event was preceded by a large number of minor foreshocks reaching upto 4 in magnitude throughout 1992 but it appears they were not taken seriously as precursors, indicating the shape of things to come. If only they had been given their due importance, perhaps some worthwhile precautions could have been taken and many lives saved.

The need to recognise the writing on the wall through the foreshocks is another contribution to posterity made by the Latur quake. This is extremely relevant to the seismic scene of Mumbai where three minor shocks up to 4.2 in magnitude have occurred in the recent past in the stretch between Kalyan and Panvel, two to the east and west of Taloja in 1998 and 2002 and the third and the last one at Kalyan in 2005.

The foreshocks are known to occur even for a few years before the big quake and considering that geologically, this eastern corridor is a highly deformed one with the Thane creek itself marking a major fault, it will be more prudent to take this Kalyan-Panvel tract as having the potential for an earthquake. That will be better than ignoring the message from these minor shocks.

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