

## ***EDITORIAL***

### ***Mega Earthquake to rock Himalaya within a decade?***

The earth is approaching its peak seismicity around 2008 and there is high probability of a "real great earthquake" of a magnitude of nearly 8 on the Richter scale, in the northern India anytime within next ten years. The damages expected after such major earthquake may be much more devastating than earthquakes of normal magnitude. While the energy released in the Latur earthquake (6.3 on Richter scale; occurred at Latur, Maharashtra in 1993) was supposed to be only one hydrogen bomb, the possible quake in the North may be far more disastrous, releasing energy equivalent to about 50 hydrogen bombs. Records show that the return period of earthquake for example in Himalayan region is around 50 years. This region had been earlier rocked by a mega-quake on August 15, 1950. The recent earthquakes in and around the sub-continent like the one in Quetta (1997) in Pakistan, Latur (1993) in Maharashtra, Uttarkashi (1991) in Garhwal Himalaya, Koyna (1967) in Maharashtra (India) might be only the warnings for coming of a great earthquake. The earthquakes at Koyna (1967), Kurudwadi (1993) in Jabalpur, (India) were all preceded by moderate intensity tremors. Even Khandwa situated on the Narmada banks, had received such tremors in 1993 as a warning to a possible earthquake in future.

Although it is not yet possible scientifically to predict the date and place of a likely earthquake yet some fore-warnings based on the available information, data, calculations, limited observations and even intuitive dreams, which many times have proved true, may help to forecast earthquakes and help save millions of people from the possible future catastrophe. A study of the plot between the number of major earthquakes (> 7 on Richter scale) per decade and time shows that the periodicity of global seismicity is continuously on increase. International seismologists have realised the same. As such, it is predicted that the next ten years may be full of seismic hazards and a safe seismic period may begin around the years 2010 lasting for about 50 years. The next peak around the year 2060 may be less catastrophic. So we should learn to live with danger. My intuition suggests that the next ten years may really be difficult for civil engineers in general and geotechnical engineers in particular.

For many reasons the pace of dam construction in the areas above the Gangetic plains is comparatively slow (may be God wishes so) and the same should be accelerated only after the year 2008. It is intuitively suggested that mega surface structures in high seismic zones should be built after about a decade or so. Until then, thorough geotechnical investigations should be done and researchers should take up research in this direction. The planners should take advantage of the seismic gaps for a given zone.

Further, more attention should be given to underground space development below a safe seismic depth (say 30 m or more) from the ground surface and away from faults etc. as it is safe from high intensity earthquakes and all other natural disasters and wars. Let us pray God that the underground space is used for humanitarian missions only. Let the journey of this planet remain in peace and tranquility.

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