

Jabalpur Earthquake of 6 August 2011 — V. K. Khanna (Email: vkk1234@gmail.com)

An earthquake of 2.8 magnitude occurred in Jabalpur at 22.54 hours on 06 August 2011 with epicentre at 23.152°N, 79.88°E. The epicentre is southeast corner of Balsagar (reservoir) adjacent to Dhanwantri Nagar and Medical College. The earthquake was caused due to the activity of Rampur-Madan Mahal fault. This fault was not active in the geological past and possibly it became active due to previous earthquakes in Jabalpur area. The fault runs east-west between Madan Mahal on the northern side and Rampur on the southern side. It passes through Balsagar to further west although surface manifestations of the fault are absent near Balsagar.

Jabalpur lies in seismic zone III. It has a network of small faults which belong to Narmada South Fault System. Many small magnitude earthquakes, which are not felt by people, occur regularly in Jabalpur area after 1997 earthquake of 6.0 magnitude. This is probably the first time the epicentre of earthquake is in the city itself. The epicentres of most of the previous earthquakes in Jabalpur area, including earthquake of 22 May 1997, were to the southeast of Jabalpur.

The 06 August 2011 earthquake of Jabalpur was not felt in the entire city. It was, however, felt in Panagar, Bheraghat and Patan 15 to 35 km away from Jabalpur.

The rumbling sound, heard in many

parts of city, due to very small magnitude earthquake indicates nearness to epicentre and the shallow focus of the earthquake, which is 12-13 km deep. Although the earthquake was felt for just 3-4 seconds, the total duration of the vibrations recorded by Broad Band Seismological Observatory of Geology Survey of India (Jabalpur) is 27 seconds.

The fumarolic activity on a limited scale in Naga Pahari area near Barela, about 25 km to the SE of Jabalpur, on 26 April 2011 was on account of Narmada South Fault and not due to any volcanic event. Can the fumarolic activity trigger mild tremors is a matter of research.