

CHENNAI TREMORS OF 25 SEPTEMBER 2001

This has reference to the "Ruminations" of Dr. Arogya-swamy on the September 25, 2001 tremors at Chennai (*JGSI*, v.59, no.1, p.89). When I was looking after the hydrocarbon exploration project in Tamil Nadu (which included the State of Pondicherry) in mid-seventies of the last century, I remember to have come across a GSI view on the finding of a basalt piece near Kariakal (to be exact, the location mentioned was Pondicherry) to be transported from the volcanic arc of Andamans.

Today, Indian geoscientists have much larger set of multidisciplinary data on the subject, to correlate the event of Chennai tremors to an existing geophysical feature. This feature is seen as a prominent Bouguer anomaly running through the Dharwar Craton, which was first commented upon by Dr. J.G. Negi of NGRI in early eighties of the last century as a compression induced feature at deep crustal level (close to mantle boundary). This feature has been brought to focus again by the imaging technique employed by Prof. Y. Sreedhara Murthy of Osmania University. In the image of Bouguer anomaly map published as Fig.1c in his paper "Images of Gravity Field of India and their Salient

Features" (*JGSI*, v.54, no.3, p.226), this feature is seen as a NW-SE trending broad lineament, running from Kutch in the NW up to Chennai in SE. On this linear feature lie the epicenters of earthquakes responsible for Allah Bund (which occurred in 19th century), Bhuj, Anjar, Koyna, Killari and Chennai. This feature can also be seen in the free air as well as in the isostatic anomaly maps, presented in the same paper. This feature does appear to reflect a major deep-seated aspect of the crust mantle configuration in the peninsular India that needs to be studied and properly understood.

Dr. U. Raval of NGRI informs me that recently Prof. Bilham has also emphasized the seismic significance of this gravity trend. It is hoped that earth scientists of various institutions, universities and other connected organizations will come to frame a multidisciplinary time-bound programme of study of this feature of great importance and significance to us.

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