

EARTHQUAKE ENGINEERING
RESEARCH INSTITUTE

NEWSLETTER

Editor Diana Todd
Associate Editors Harry W. Shenton III
Gerald Brady
Editorial Assistant Shirley Taylor

ISSN 0270-8337

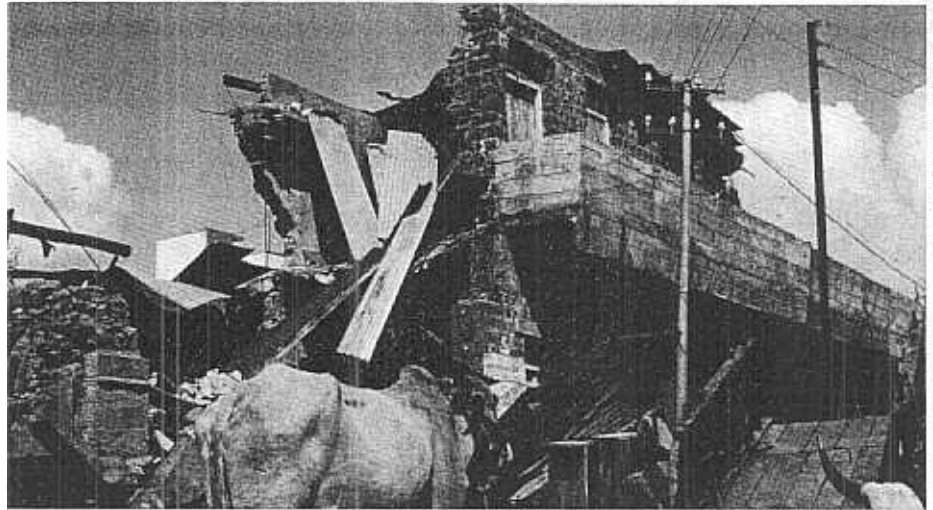
Earthquake Engineering Research Institute
499 14th Street, Suite 320
Oakland, California 94612-1902
Phone: (510) 451-0905 Fax: (510) 451-5411

EERI Regional Seminar Series Moves to St. Louis

Phil Gould (EERI 1982) and Kevin Truman (EERI 1988) have been the motivating forces behind the effort that will bring the EERI Regional Seminar Series to St. Louis, Missouri, on January 26 and 27, 1994. The series, developed and produced with support from the Federal Emergency Management Agency, covers earthquake fundamentals and seismic engineering issues. Each seminar is tailored to be region-specific, with presentations typically covering the local seismicity, building types, public policy concerns, and examples of local projects.

The St. Louis seminar will be held in cooperation with the local ASCE chapter. Previous seminars were held in Boston, Massachusetts,

Maharashtra, India, Quake of September 30, 1993



A view of a partially collapsed two-story building.

The Maharashtra earthquake in Central India occurred at 3:56 a.m. Indian Standard Time (+5 hrs 30 mins from GMT) on September 30, 1993. The epicenter was located at 18.2°N and 76.7°E, in the State of Maharashtra, near the village of Killari. The Richter magnitude of the event has been cited as between 6.0 and 6.5. The final death toll is expected to be between 12,000 and 30,000, including many whole families. Many thousands have been injured and made homeless. A quick survey of damaged and undamaged structures within the worst affected regions indicates that the severity of ground shaking was moderate (MMI VIII) or less) and the duration of shaking was about 30 to 40 seconds.

Over 62 villages in the Latur and Osmanabad districts of Maharashtra took the brunt of the disaster. The walls of the village huts and other buildings are of random rock masonry, and are not tied to each other. The mortar is generally mud or occasionally lime, very rarely cement mortar, and the roof, a flat slab of between one to two feet of mud, is not tied at all with the walls. The construction of the houses is thus poorest in lateral load resistance. Even a slight improvement in the quality of construction or the quality of mortar protected huts from total collapse. The strong shaken region did have a few fully engineered structures—mainly factories, poultry farms, and agro-business related structures, and a large number of these structures survived the earthquake without noticeable damage.

The photograph and this report were contributed by Haresh C. Shah (EERI 1972), Stanford University. A fuller report by the EERI Reconnaissance Team will appear in the December Newsletter.

and Little Rock, Arkansas. If you would like to arrange for the seminar series to come to your region, contact the EERI office.

Pre-registration will be necessary

for the St. Louis seminar. The cost is \$75 (\$35 for students), which includes lunch on both days. Registration materials will be mailed to regional EERI members the month before the seminar.