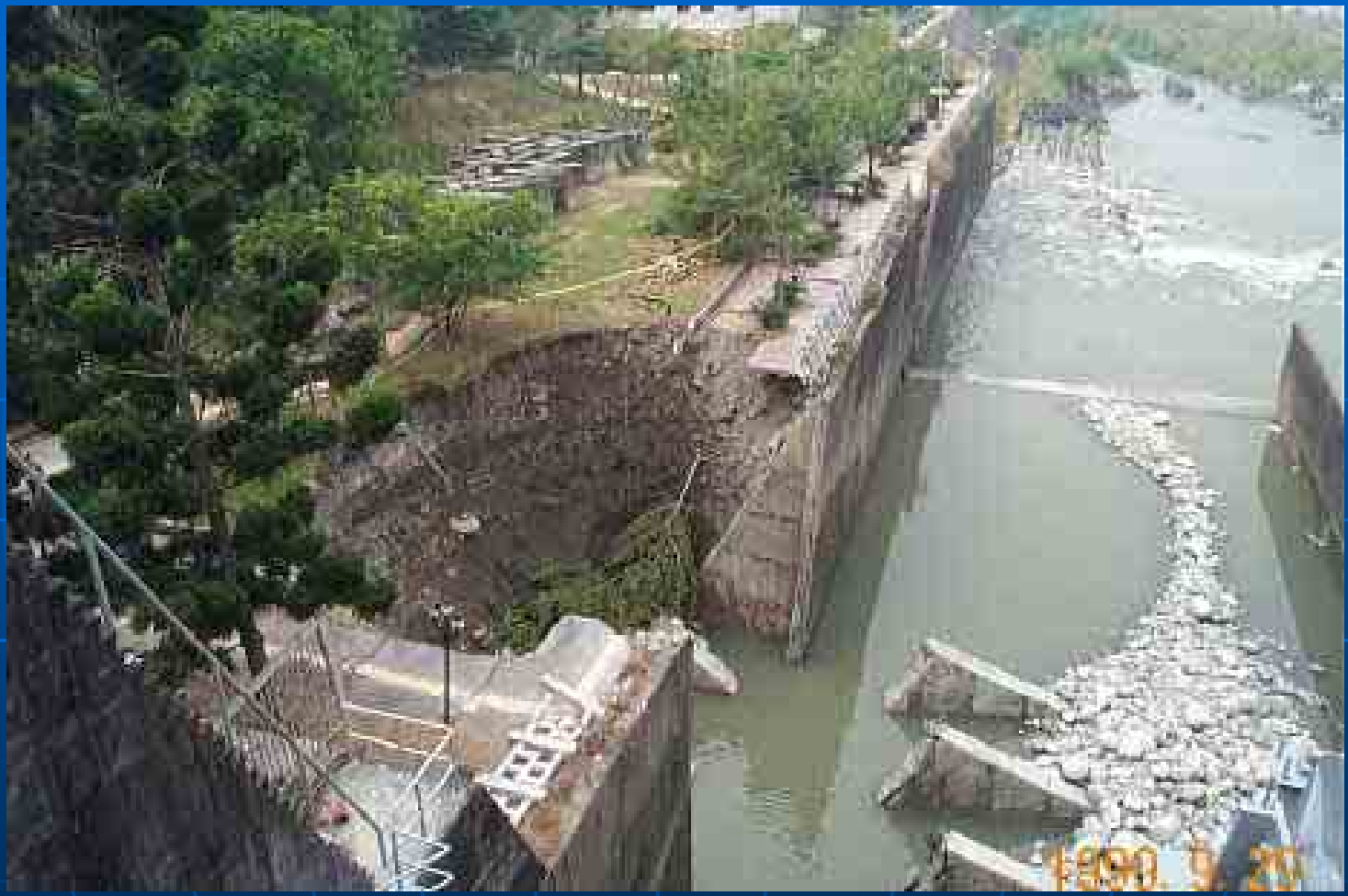
Retaining Wall Collapse in Earthquake

By Mehdi Vojoudi

Chi Chi Earthquake of 20 September 1999 Magnitude 7.3



Retaining wall failure at the Shin-Kang Dam

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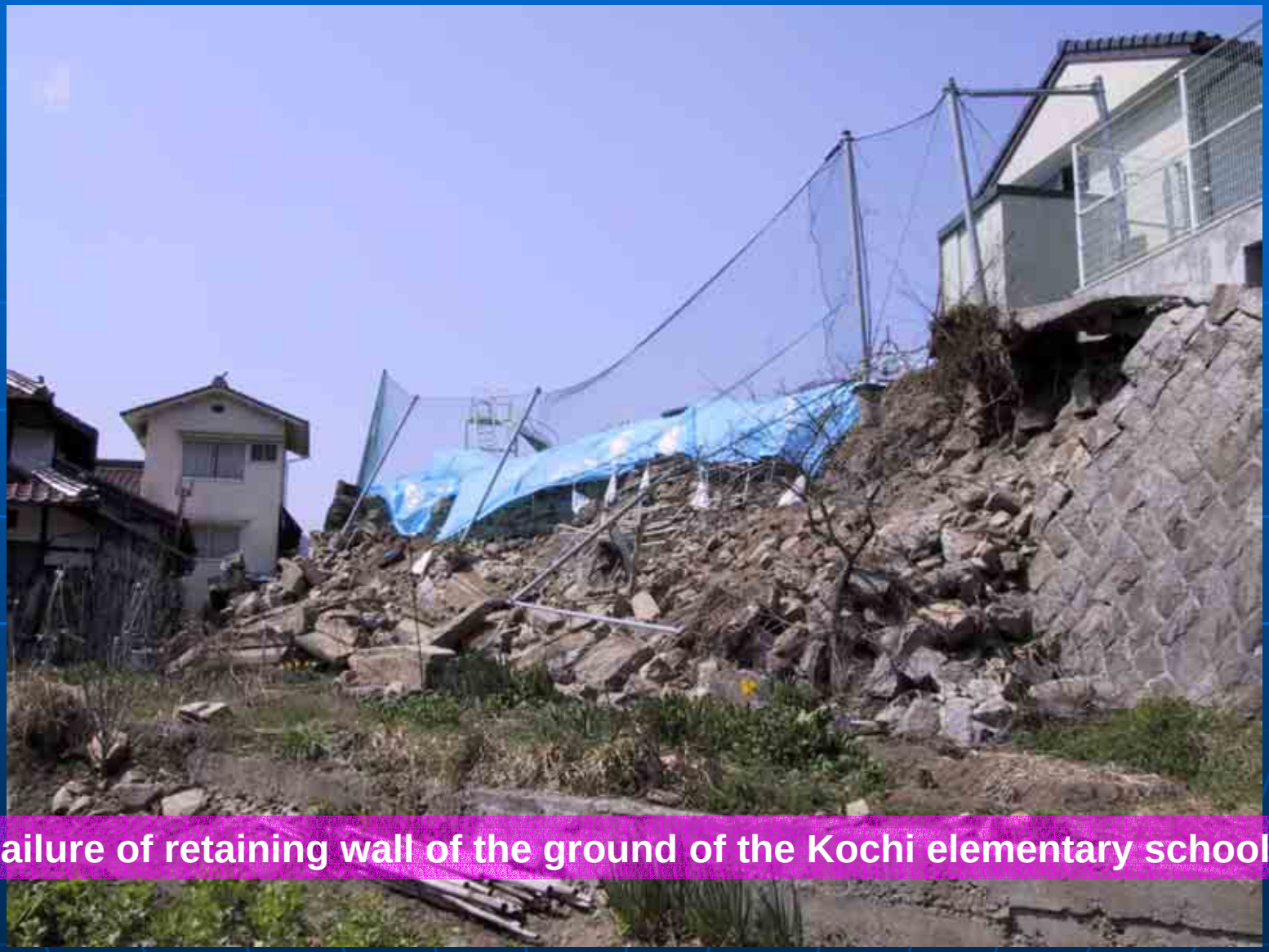

Failure of retaining wall of the ground of the Kochi elementary school.

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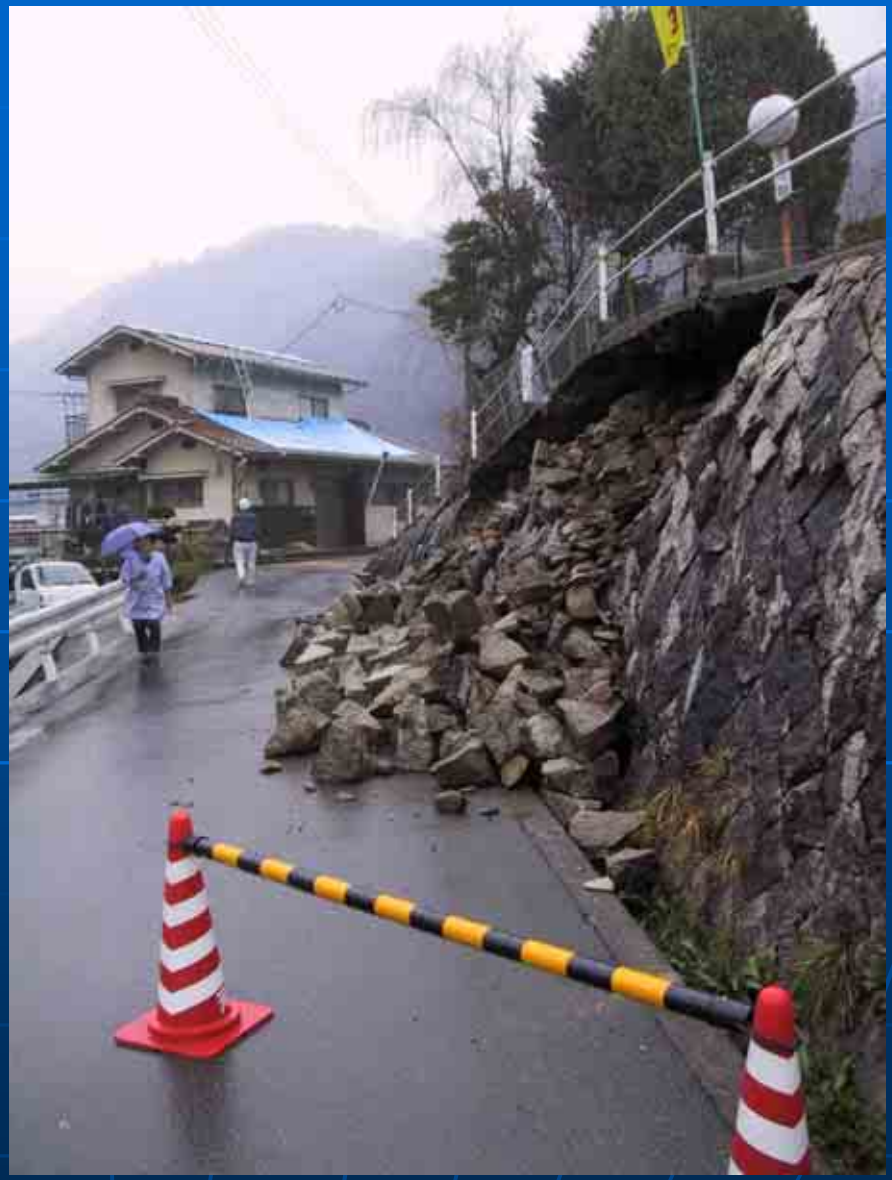

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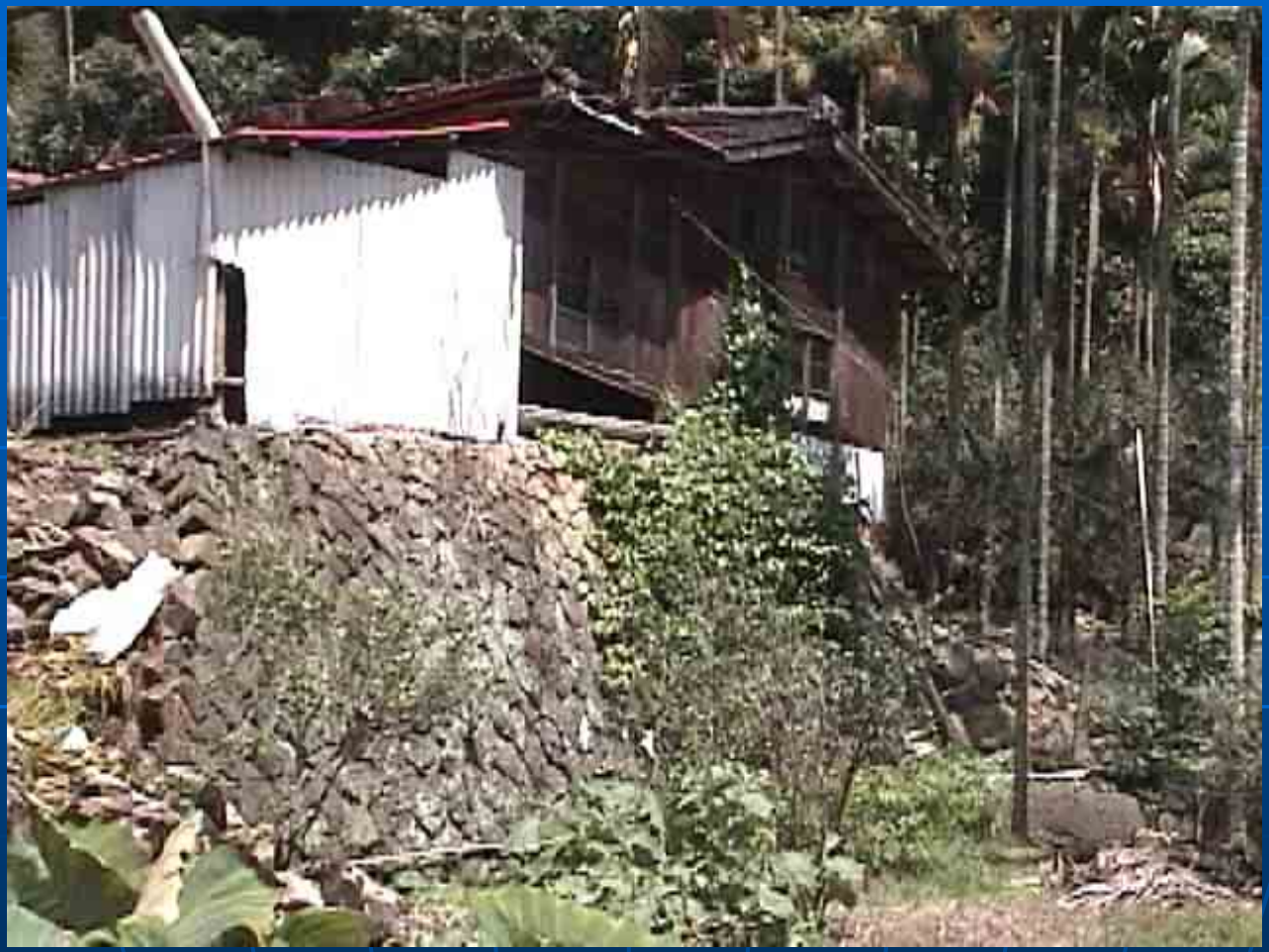
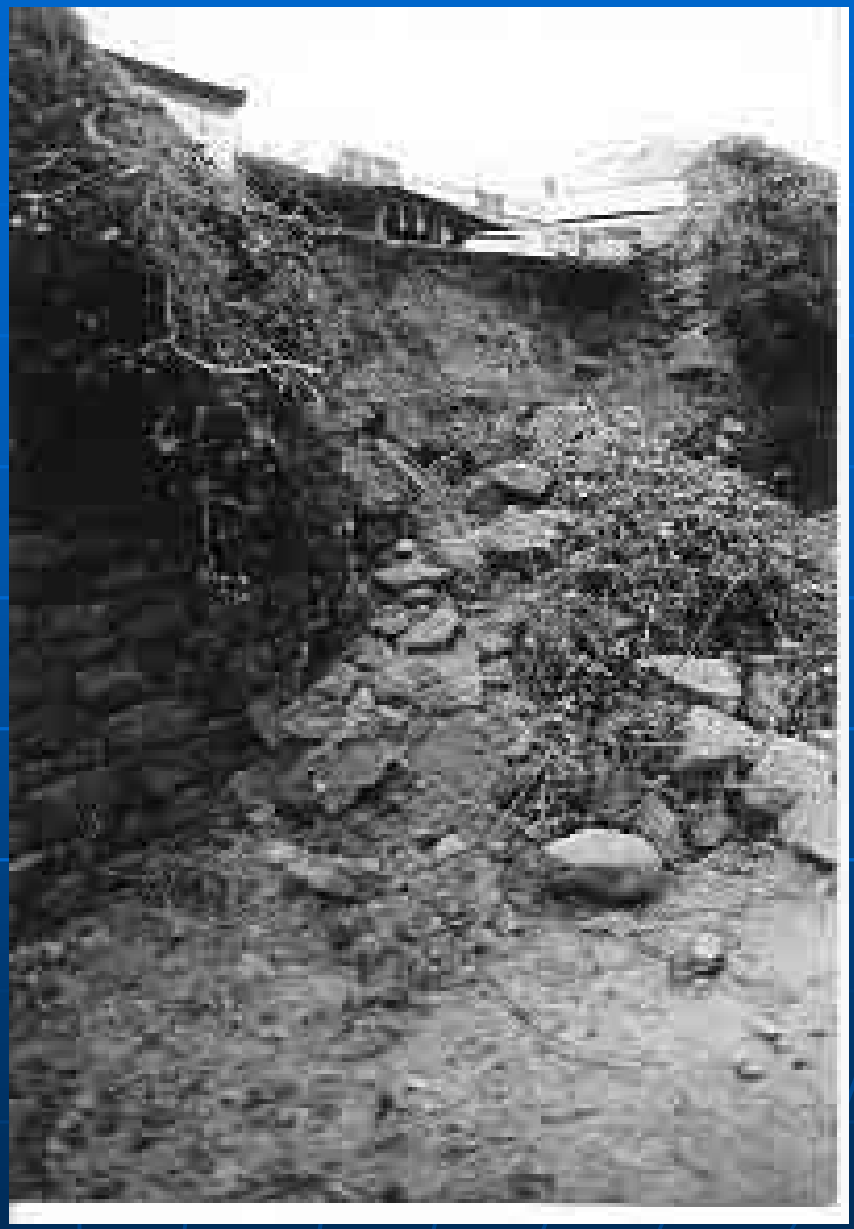


The retaining wall supporting the wooden house settled and was partially damaged (23.58N, 120.69E, 11:18:25, October 1, 1999).

El Slavador - January 2001

retaining wall failure during earthquake

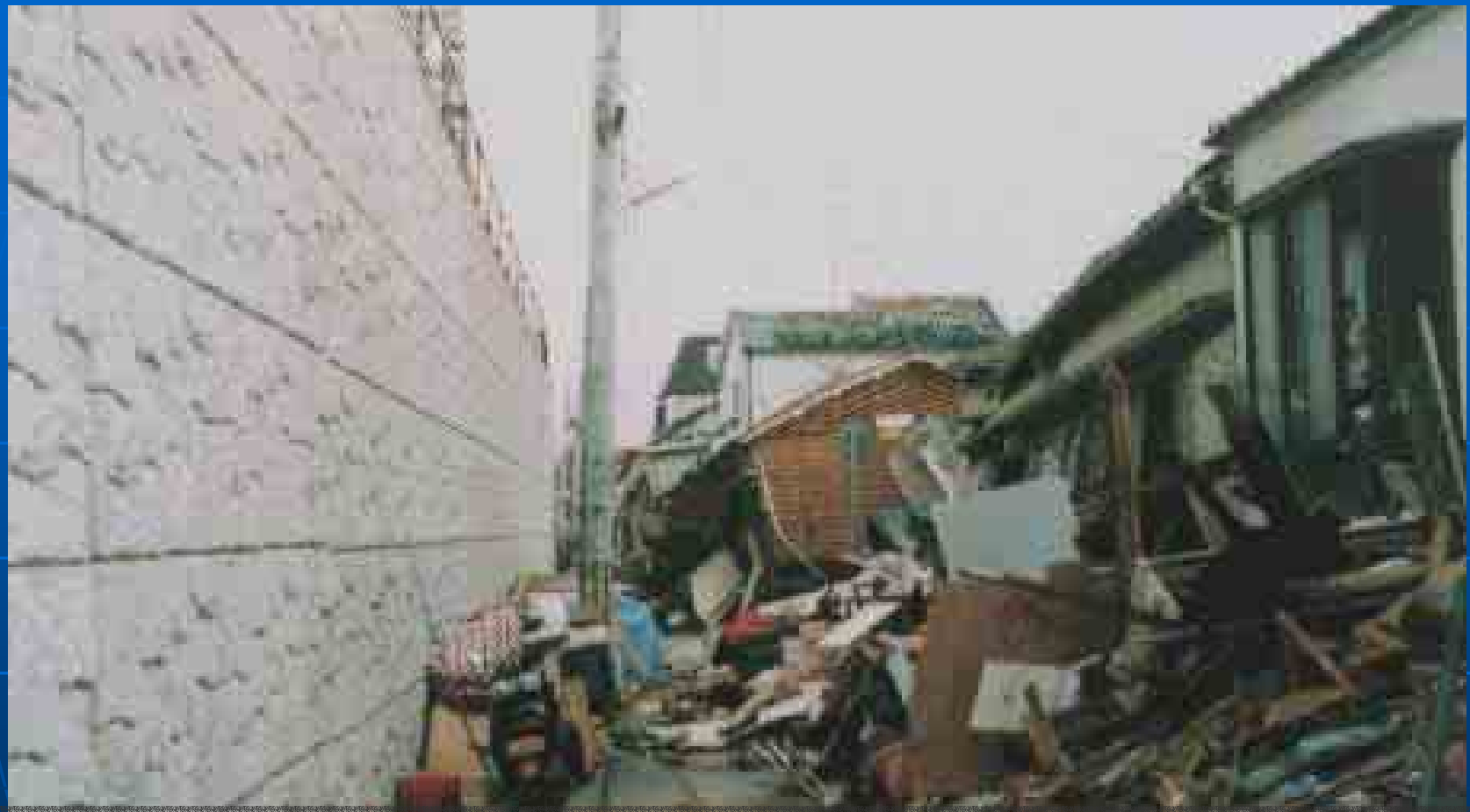
Dry stone retaining wall failure



Taiwan Earthquake On September 21, 1999 a magnitude ML 7.3

The upper section of the retaining wall was uplifted by the thrust fault and the retaining wall was sheared. The asphalt road

Kobe , Japan - MW6.9



The wall was completed in 1992 to increase the number of railway tracks from four to five. Its for a total length was about 300 m. It was deformed and moved only s lightly during the devastating earthquake the occurred in Japan, while more than half of the wooden houses in front of the wall collapsed totally. This type of geogrid-reinforced soil retaining wall was broadly employed to reconstruct the damaged conventi onal type retaining walls after the earthquake since it performed so well.

Kobe , Japan - MW6.9

Retaining wall damage and lateral spreading, Kobe 1995

Hiroshima Earthquake - Saturday, March 24

- The moment magnitude (M) was estimated at 6.9.

Turkey Earthquake of August 17, 1999

Mechanically stabilized earth wall within a few meters of the primary fault rupture
Although subjected to differential settlement, it suffered only minor damage.