Major earthquake strikes central Taiwan

James Conachy 22 September 1999

An earthquake measuring 7.6 on the Richter scale struck central Taiwan early Tuesday morning. In the small towns surrounding the epicentre, homes and recently built residential apartments collapsed. Hundreds of people were killed in their beds and hundreds more are still trapped beneath rubble. Some 100,000 people are reportedly homeless. The official death toll has already risen to more than 1,700 and, with at least 3,000 people still buried, is expected to rise far higher.

The worst affected areas are the Nantou and Taichung counties, known in Taiwan for their mountains and tourist resorts. Rescue efforts have been delayed and interrupted by the isolation of the region. All telecommunication links were cut, roads twisted or severed and power lines downed. Rescue workers have little heavy equipment. Reports have already appeared of families trying to dig loved-ones out of the rubble by hand. Hospitals in the area have no power and morgues are not functioning. Bodies are being piled up in the open and are decomposing. Helicopters operated throughout yesterday flying in emergency medical supplies and flying out casualties and corpses. But flights were stopped last night due to potential dangers to the crews.

The earthquake inflicted damage across Taiwan and has been followed by hundreds of aftershocks, dozens of which have registered over 5.0 on the Richter scale. Over four million houses remain without electricity. Two major hydroelectric dams have been damaged. In the capital of Taipei, 150 kilometres north of the epicentre, a 12-story building collapsed, trapping more than 100 people. Numerous other buildings suffered varying degrees of structural damage.

The mainland Chinese provinces of Fujian and Zhejiang, opposite Taiwan, were also hit, though no damage or casualties have been reported as yet. Particularly affected was an industrial area in the trading city of Xiamen, which had been built entirely on land reclaimed from the sea.

As well as the human cost, the quake is expected to push up the world prices of computers. Taiwan is a centre of computer-related transnational production. Taiwanese-based factories produce more than a third of all computer chips and 10 percent of computer memory chips, as well as a sizeable proportion of the world production of notebook computers, network cards and other computer peripherals. Global shortages in these products are anticipated in the next two months as the bulk of these production sites have been closed due to lack of power and disturbances to highly sensitive equipment.

Coming in the wake of the devastating earthquake in Turkey, spokesmen from the US Geological Survey have been widely quoted in the international press as stating that Taiwan escaped the same type of damage and death due to its superior building codes, which are modeled on those of California. Reports from Taipei recount high rise apartment buildings and office towers literally swaying violently from side to side but not collapsing.

The ability of many buildings to survive the earthquake however must raise questions as to why so many collapsed, especially in the towns close to the epicentre. A BBC report yesterday provided some insights. It quoted Professor Amr Elnashai, head of Earthquake Engineering at Imperial College, London. "In theory, we can design to deal with any size or magnitude of earthquake. If we have a sensitive structure, for example a nuclear reactor, we say we will not accept more than one percent chance of damage. But for houses we may say no more than 50 percent. It is a matter of cost".

David Pertley from Portsmouth University in Britain, who has worked since 1991 on earthquake risk reduction in Taiwan said the Taiwanese government would not prove "absolutely blameless".

"I suspect that we will see that some of the buildings which have been destroyed have been built on land which according to the planning rules should not have been constructed upon. There's quite a lot of illegal construction work, which goes on in Taiwan as a result of the very rapid development. In Taipei we will find that some of the older buildings, which have come down, in one way or another would have broken the building code," he commented.



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