

Workshop on earthquakes

Buildings not designed to withstand tremors

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The government should issue regulations that compel developers to "stitch" new buildings so that the roofs are actually tied to the walls, as these would make buildings much safer in the case of a tremor, according to structural engineer Denis Camilleri.

Speaking at a workshop on Seismicity And Earthquake Engineering In The Extended Mediterranean Region, Mr Camilleri said all it took to make buildings much more resistant in the case of a local tremor was to use bricks and steel rods in walls so that the ceilings would be "tied" to the walls, not merely lie and rest over them.

The seminar is being hosted by the University of Malta and sponsored by Unesco and the US Geological Survey. Some 50 scientists from 25 Mediterranean countries are taking part.

"Studies in areas hit by earthquakes show that buildings constructed in the way they are being built in Malta led to the collapse of walls, with ceilings falling down crushing whatever was below. If ceilings are tied to the walls, they would withstand much more before collapsing and are likely to even withstand the earthquake," he said.

Mr Camilleri estimated that in an apartment block, this could entail a cost of about Lm2,000, which, considering property prices, was not a big expense that would break the developer's back.

He said building regulations that were about to be issued, which will incorporate use of energy efficient materials, would be putting more financial pressure on developers than what he was suggesting, and the safety aspect should not be compromised for the small amount of money that was involved.

"It is also important that these regulations are enforced, as otherwise their purpose would be defeated," he said.

Another aspect building contractors should pay more

attention to was the use of mortar, the material that binds the building stones. This should have more cement and some sand too to make it stronger, as this too would make buildings more resistant to vibrations.

Mr Camilleri said though Malta lies in an area where seismic activity was low, one still had to cater for basic seismic design, which many were simply ignoring. "Many seem not to realise that it is not earthquakes that kill but falling stones and roofs which tumble as a result of the vibrations."

Another issue that should be tackled without further delay was a seismic risk analysis for the Maltese Islands, which has not yet been carried out.

"Strong earthquakes in Sicily can have a significant impact on Malta. Tremors close to Greece are also felt in Malta but those in Sicily are bound to have more impact on us. One can decide to discard everything if one judged only from the risk point of view, but one has to take the vulnerability aspect into consideration," he said.

The amount of damage that could be caused by an earthquake varies, depending on the strength of the tremor. A force five tremor can easily cause losses to the tune of Lm10 million while a slightly stronger force six earthquake could cause damage amounting to Lm75 million. A force eight tremor could cause damage amounting to over twice Malta's GDP and kill over 2,000 people, he said.

Mr Camilleri said though it was not in Malta's culture to plan and prepare, planning ensured an early return to normality if a disaster were to strike.

"There are some simple things one does not often think about but access routes to hospital must be free from rubble if earthquake victims need to be hospitalised," he said.

Falling buildings generate a large quantity of dust that can asphyxiate people. Knowing about such issues can lead to the proper kind of help being made available sooner, he said.



Earthquake damage in Turkey 'If ceilings are tied to the walls, they would withstand more vibrations'

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