

Fears gloom over dams

Monday, January 17, 2005

COLOMBO: In the aftermath of the December 26 tsunami, with the possibilities of future tremors and earthquakes in Sri Lanka, several foreign and local scientists have voiced concerns that reservoirs in the hill country and large man made structures such as high rise buildings would get affected.

It is an accepted fact by geologists that a new plate boundary has formed in the middle of the indo-Australian plate, splitting it into the Indian and Australian plates. The new plate boundary is several thousands of kilometres to the south of Sri Lanka, and could answer why Sri Lanka is experiencing tremors recently.

Peradeniya University's Senior Geology Professor C.B Dissanayake making a presentation on 'A new plate boundary near Sri Lanka-its implications for the built environment' said the facts at the BMICH international seminar on Tsunamis on Saturday. It was organized by Soil Tech and the foreign scientists were funded United States National Science Foundation.

A Mahaweli Authority official who was present at the seminar disclosed that they had no way of revealing whether the dams could withstand the tremors, or whether they had undergone any structural failure. The construction of multi storey buildings is also problematic, he said.

University of Southern California Professor of Civil Engineering Prof. Costas Synolakis suggested that Sri Lanka could install seismometers in the dams, which could be of help. 'It costs about 500 US dollars,' he said.

"Sri Lanka is situated near a subduction zone. That means a place where one plate sinks under another. Therefore the risk of tsunamis and earthquakes is high," he said.

The land we walk on is made up of 12 to 13 plates, and Sri Lanka sits

on the Indian Plate. Formerly the Indian and Australian plate was drawn together in maps, but with the latest finding, the new maps show it as two plates.

"Usually the plates travel at one or two centimetres per year.

But the Indian plate is ramming against the Eurasian Plate at a high speed of 5 to 6 centimetres per year. That is Formula one stuff in geological terms. Sri Lanka hung on to India," he said. The Eurasian plate is the one comprising mainland Asia.

"This process has been going on for 50 million years, and because of the meeting of two plates, namely the Indian and Eurasian, the Himalayas was formed. Now it has reached almost its limit," he said.

'But recently a grope of geologists from Lamont made up of Prof. Jim Cochrane found high tremors registering 7 on the Richter scale on the Lakadiv Chagos line. In geological terms, that is unusual, and an anomaly to have tremors in the middle of a plate. But these scientists found evidence of tremors dating back from 1912. Survey ships found massive sea floor deformation.

They confirmed that the plate is splitting in the middle, and unfortunately for us, close to Sri Lanka," he said.

"In geological terms this is a young border, it is only 8 million years old. It is a diffused plate boundary. The unique thing is, in one side of the boundary, the plates are moving away from each other, and on the other side they are moving at each other," he said.

The plate junction where the Indian, Australian and Burma plates meet is close to Sumatra, and if one draws a line from the junction, it would meet the latest December 26 massive earthquake epicentre.

"We have been getting minor tremors, are they forewarnings of another major earthquake? We must see if there is a pattern. Will we need earthquake proof buildings in the future? We need to consider that. What about dams? There are lots of fault lines in Sri Lanka that could get activated by these tremors. We need to monitor the situation in dams carefully," he said.

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