

Researchers go into action after Tsunami

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British researchers have launched urgent research programmes in order to learn lessons from the recent Indian Ocean Tsunami disaster. Such knowledge is relevant to both UK, and overseas disaster assessment and prevention programmes.

Funded by grants from the Engineering and Physical Sciences Research Council (EPSRC), teams from the University of Cambridge, the University of Newcastle, and University College London have looked at differing aspects of the tsunami's effects. Their objectives were to collect and assess appropriate structural, topographical, seismological and tsunami related data.

The University of Newcastle received a grant from EPSRC to undertake an immediate survey mission to the regions affected by the tsunami. Dr Sean Wilkinson from the University's Civil Engineering Department, with Dr Tiziana Rossetto from University College London, participated as members of the Earthquake Engineering Field Investigation Team (EEFIT) - which has now returned from the disaster zone. Their aim was to research the damage to buildings and infrastructure caused by the tsunami and to make recommendations to reduce or prevent damage in the future.

A further objective was to assess the reasons for the high death toll and suggest what engineering / architectural measures could be taken to save lives. Drs Wilkinson and Rossetto spent 10 days in Sri Lanka and Thailand researching the tsunami's impact on structures, coastal topography, and the differences in how well-designed and badly-designed buildings stood up to the events.

Dr Sean Wilkinson said of the findings: "What we found was quite unexpected. Even in the worst hit areas, many well engineered buildings suffered only modest structural damage, however they offered little protection from the tsunami. This is the opposite to what we find for normal earthquakes and has major implications for coastal communities worldwide."

A research team from the Department of Architecture at the University of Cambridge is using EPSRC funding in collating eyewitness reports from British citizens, field surveys, and satellite imagery to build a more complete understanding of the tsunami's behaviour and potential risks.

"More than any other recent earthquake-related disaster, the immediate and long term effects are not confined to the Indian Ocean basin, but are still being felt around the world. Rapid recording of damage data helps to identify when and where such changes have occurred," said Professor Robin Spence, the Cambridge project's Principal Investigator.

The Cambridge University work has direct implications for UK coastal regions. Dr Ilan Kelman and Keiko Saito the project's researchers, explain: "UK coastlines are vulnerable to rare but large scale tsunamis. Major storm damage occurs relatively frequently. The understanding of safer coastal development, which our research work could produce, will apply directly to UK practices."

The Engineering and Physical Sciences Research Council (EPSRC) reacted quickly to these funding requests and ensured that the opportunity for optimised research with direct relevance to science, and people's lives, was achieved.

Source: Engineering and Physical Sciences Research Council

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