COST Action C26
Urban Habitat Constructions under Catastrophic Events

THE VESUVIUS CASE STUDY IN THE FRAMEWORK OF THE EU COST ACTION C26 ACTIVITY

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The Working Group 4 ("Risk Assessment for Catastrophic Scenarios in Urban Areas") has been devoted to any natural hazard except earthquake. The focus has been pointed on identification, characterization and modeling of natural disasters, construction response and possible relevant consequences of combined extreme loadings in the built environment.

Since the beginning, the work seemed too huge without a robust “Ariadne’s thread” to follow. Therefore, three directions have been identified for the research:

a) the investigation on each single catastrophic infrequent event;
b) the set up of a multi-hazard approach, together with the development of a common methodology for risk assessment;
c) the identification of a pilot study enough general to join several disciplines in a transversal approach.

The Vesuvius extreme dangerousness induced the WG4 to introduce the ‘Vesuvius case study’ within its research activities, with particular regard to the effects on the constructions produced by a possible eruption.

1. INVESTIGATION ON NATURAL DISASTERS

The investigation on natural catastrophes (except volcanic) has been carried out since the beginning of the Action and continued until its end (Figures 1-5).

2. INVESTIGATION ON VOLCANIC ACTIONS AND VESUVIUS PILOT STUDY

The study on the volcanic phenomena increased strongly during the WG4 activities (Figures 6-20), especially when the Vesuvius was selected as the WG4 pilot study.

3. MULTI-HAZARD, VULNERABILITY AND RISK ASSESSMENT

The work took advantage from the activity experienced in other International, European and National projects and Actions (examples: EXPLORIS 2006; MAR VASTO 2007; COST TU0601 2007; Figures 21-32).

CONCLUSIONS

The work involved several experts of different disciplines and created an enlarged platform for a free and productive discussion.