



The organization, form and functions of urban systems in seismic risk evaluation.

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The urban scale scenario in an emergency planning phase means to identify and describe the reference event to be used in order to set up the emergency plan and, using that, make a loss evaluation (analysis of the consequences), with the purpose of setting the civil protection answers in the specific emergency plan. To improve planning, recent orientations in seismic risk evaluation at urban scale consider towns and cities as a cluster of components linked by complex relationships. A possible manner for the interpretation of urban environment is the so-called model of the “Urban strategic system”, that is, the parts and components of the urban system which, in any case after a disaster, have to ensure their functions. The analytical paths allow to describe a list of parameters, being based on morphological, socio-economic and functional aspects, referred to homogeneous urban parts. For example, the historical centre of a town is one of these parts.

This new concept of urban system concerning seismic risk reduction allows to treat properly the emergency planning, the arrangement of seismic mitigation actions and the management of intervention programs. Another crucial aspect of this model is the identification of an urban structure useful to compare town layout with seismic microzonation or any other hazard map. This comparison allows to select priority areas or sites to define mitigation strategies, so local or regional authorities could dictate a particular function in structural or detailed planning. Any planning or action must be compatible with this priority purpose giving guidelines for planning measures and for land management.

The model of “Urban strategic system” is based on measuring relations applied to

objects and their properties, where properties are the features of single objects, so relations are links between single components of urban system.

The “Urban strategic system” has been experimented in medium and large cities in Italian seismic areas. This writing shows the results of test-sites, the critical points and the developments of studies.