

## Investigation on community resilience in Bucharest, Romania

Florin Pavel (1), Ileana Calotescu (1), Radu Vacareanu (1), Ana-Maria Sandulescu (2), and Horea Sibisteanu (2)

(1) Seismic Risk Assessment Research Center, Technical University of Civil Engineering of Bucharest, Romania, (2)  
Technical University of Civil Engineering of Bucharest, Romania

Bucharest, the capital of Romania is a city with around 2 mill. inhabitants according to the latest census from 2011. The existing building stock in Bucharest comprises around 130000 buildings (mainly reinforced concrete and masonry structures), most of them (over 80%) built before 1990. The Vrancea intermediate-depth seismic source is the major contributor to the seismic hazard in southern and eastern Romania (including Bucharest). The last major Vrancea seismic event occurred in 1977 ( $M_w = 7.4$ ) and caused extensive damage throughout the southern and eastern part of Romania. Two other significant Vrancea intermediate-depth earthquakes took place in August 1986 ( $M_w = 7.1$ ) and May 1990 ( $M_w = 6.9$ ), respectively. However, since the May 1990 seismic event a single earthquake with  $M_w \geq 6.0$  has occurred in October 2004 ( $M_w = 6.0$ ). The additional Vrancea intermediate-depth seismic events with  $M_w < 6.0$  which happened in the period 1991-2016 have caused only a certain level of panic and no structural damage. In this context, this study describes the initial stage of an on-going research project (COBPEE) financed by the Romanian National Authority for Scientific Research and Innovation in the period 2015 – 2017 and which aims at correlating the societal requirements of the human community in Bucharest with the structural requirements of the existing built environment. For this purpose, an extensive survey is conducted in the period February – July 2016 in order to collect relevant information from the residents of Bucharest with respect to several topics of interest such as the level of awareness and preparedness of the population in the case of a major seismic event (originating in the Vrancea intermediate-depth seismic source), the level of expected damage for residential buildings and the level of implication of the population in the recovery process after a major seismic event. The target population was selected based on data from the latest census in 2011. This study briefly describes the first part of the research which is related to the survey process and the processing of the preliminary survey results. An investigation of the survey results is to be performed in order to bring valuable information with regard to the above-mentioned topics.

### Acknowledgments

This work was supported by a grant of the Romanian National Authority for Scientific Research and Innovation, CNCS – UEFISCDI, project number PN-II-RU-TE-2014-4-0697.