عنوان مقاله:

EARTHQUAKE RISK MANAGEMENT USING NANOTECHNOLOGIES: A STUDY ON CENTRAL PARTS OF METROPOLITAN TEHRAN

محل انتشار:

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نویسندگان:

Alireza GHAFOURI ZARANDI - *M.Sc. of Geography and Urban Planning, International Institute of Seismology and Earthquake Engineering (IIEES),Tehran, Iran*

Zhila POOYAN - *Assistant Professor of Urban Planning, International Institute of Seismology and Earthquake Engineering (IIEES),Tehran, Iran*

Sharareh BANKI - *Expert of Geology and GIS specialist, International Institute of Seismology and Earthquake Engineering (IIEES),Tehran, Iran*

Fereshteh KAMALPOOR - *Expert of Geology and GIS specialist, International Institute of Seismology and Earthquake Engineering (IIEES),Tehran, Iran*

خلاصه مقاله:

Using nanotechnology in earthquake risk management in 21st century is an inevitable task due to its multi-dimensional aspects and spread. Nanotechnology increases human capabilities in confronting hazards and events which cause huge damages in different sectors. Considering earthquake risk management as a planned process with assumed practices in different locations and times, for evaluating the performance of different organizations and personnels involved in disaster managemen, nanotechnolgy is an effective instrument for improving human administration in applying risk management. In this paper, the earthquake risk management through nanaotechnology in central parts of Tehran considering the Ray Fault scenario is discussed. The main findings of this study include using nano silica in constructing resistant structures with different usages, using congitive sciences for finding safe places in times of disaster and self-rescue and relief based on recent experiences in Iran and in other countries, using nano skin cover for recovering from disaster injuries, chemical and electrochemical nano-sensors for controlling environmental pollutants and evacuating disaster affected people from polluted areas and using cyclodextrin polymer for refining polluted waters in post-disaster period. Such parameters develop along with nanotechnologies improvement and hence they could not be achieved in short time.

کلمات کلیدی:

Earthquake Risk Management, Nanotechnology, Tehran City