

# **Analysis and Evaluation of the Most Important Factors of Risk Management (Case Study: Rural Areas of Ghazvin Province)**

**Pourtaheri M. \***

Assistant Prof. of Remote Sensing & Geographical Sciences, Tarbiat Modarres University

**M. Parishan**

Ph.D. Candidate of Geography and Rural Planning, Tarbiat Modarres University

**Eftekhari A.R.**

Associate Prof. of Remote Sensing & Geographical Sciences, Tarbiat Modarres University

**Asgari A.**

Associate Prof. Dep. of Emergency Management, York University, Canada

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## **Extended Abstract**

### **Introduction**

Natural hazards as recurring phenomenon have always existed in human life and will in the future, too. Nowadays Natural hazards occur throughout the world, but their impacts have been increasing and are generally much greater in developing countries than in developed ones. Earthquake is a kind of natural hazard that has the most damages for humankind. Earthquakes pose inevitable risks to everyone who lives on this planet. It is known that approximately 20% of the world's populations live in seismically active zones. Furthermore, 90% of that population will be at risk in developing countries. Among the developing countries, because of the environmental structure, Iran is very vulnerable to natural hazards. In a brief look at the map of the earthquakes in Iran, we considered that most populated (rural and

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\* Responsible Author: [mahdit@modares.ac.ir](mailto:mahdit@modares.ac.ir)

urban settlements) are located in the Zagros and Alborz piedmonts, which in terms of the threat from Earthquake disasters have relatively high vulnerability. Approximately, 32% of the Iran areas, 70% of population, and 67% of gross domestic production (GDP) in these regions are exposed to high risk of earthquake.

### **Methodology**

Although In recent years Experts and planners used many approaches for mitigation of Earthquake consequences, the increasing severity of disasters and their human and economic costs, illustrated the importance of new approaches such as earthquake risk management for mitigation of Earthquake Vulnerability. Earthquake risk management is to make plans and apply those for reducing human losses and protect properties from earthquake hazards. One of the most important characteristics of earthquake risk management approach is providing the framework for reducing the vulnerability to earthquake hazards and mitigating its impacts in settlements. Survey and attention to all of the key factors that are most important in earthquake risk mitigation such as education, awareness, knowledge, skill, institutional capability and environmental capacity are of the most important characteristics of earthquake risk management approach. Earthquake risk management approach provide the framework for reducing the vulnerability to earthquake hazards and mitigating of its impacts in all settlements (urban and rural). So because rural residence are more vulnerable compared to urban areas in particular against natural hazards and earthquake risk, using earthquake risk management framework as a new approach to natural hazard management has become more critical.

### **Findings**

Researchers using qualitative and quantitative methods have attempted to clarify the state the most important factors of earthquake risk management, such as education, awareness, knowledge, skill, institutional capability & resilience between rural people of Qazvin Township. In this study 29 villages of Qazvin Township is

selected as sample. Results of field studies as well as statistical analysis found that all of the key factors of risk management (education, awareness, knowledge, skill, institutional capability & resilience) that are influenced by factors such as low awareness of the residents of skills to deal with earthquake risk, living in inappropriate situations, distance from major cities, lack of educational preparation classes and environmental disaster (earthquake), low literacy of residents, low-quality of housing and infrastructure, the least attention of authorities and organizations related to earthquake risk management and soon are in the low level or at the bottom. In order to decrease the consequences of earthquakes among the rural settlement, empowerment of education, awareness, knowledge, skill, and institutional capability is necessary. In other words in order to reduce vulnerability of rural settlements in Qazvin Township it is suggested increase awareness (special location) increase the skills (technical, communication and interactivity, and rehabilitation), knowledge (formal and informal), participation (Before, during and after) earthquake, institutional capacity (institutional structure, institutional function and institutional relations), environmental bearing capacity (improve the quality of housing, improve infrastructure, improve access, the construction of buildings and increase aid and so on.

### **Conclusion**

It should be noted that earthquake risk is a fact. and reduction of earthquake risk in all settlements, especially rural areas need attention and effort. So to reduce the vulnerability of rural areas the earthquake, the use of earthquake risk management framework is proposed and its application in earthquake risk management in all stages (data collection and identification of earthquake risk, describing the risk, qualitative and quantitative risk analysis, estimating the damage Quality, risk acceptance and planning to reduce injuries) in the whole process (before, during and after) the earthquake is necessary. Of course, for application or operational risk management process, considering environmental, social - cultural, economic and physical structures of rural communities is the key.

**Keywords:** Earthquake, Earthquake risk management, Rural settlement, Key factors of risk management

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