

Research Paper

Assessing the power of urban resilience against the seismic risk with emphasis on social and Institutional aspects (case study: Dist. 12 of Tehran)

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Abstract

In the next decades, the major driver of the increasing damages and losses from disasters will be the growth of people and assets in harm's way, especially in urban areas. Tehran's largest gravity center in Iran is 22 districts of the municipality, which is surrounded by high densities of active faults on the north and south. In order to deal with natural hazards, especially earthquakes, there are several approaches in which the four-dimensional resiliency approach is one of the most important ones. So, objective of the current research is assessment of rates of indicators of social and characteristic aspects of resilient of Dist.12 Tehran against earthquake that it has been assessed in global level based on optimal limit. For determination of optimal limit in this research, it was supposed that numerical amount of any indication in zones across the world level, in which has occurred various crisis up to now, being resilient against it (such as Japan & California) can be considered as optimal limit. Method of research in this text is descriptive-analytical type. The results of results indicate that among social indicators, indicator status of age structure of population, gender structure of population has been calculated upper than optimal limit. However, status of studies level and health cover is lower than optimal limit. Among the indicators, related to institutional resilient, all indicators have a noticeable distance with optimal rate. Furthermore, institutional communications indicator with 46% distance, has a worse status from the optimal rate. Consequently, Institutional operation indicator with 41% and institutional background with 32% distance from the optimal rate are located in the next rows.

Key words: urban resilient, in Dist. 12, Tehran, earthquake, Social resilience, Institutional resilience.

Expanded abstract

Introduction:

The tragedies, related to natural risks are increased throughout the world and changing to threat and increasing the world economic costs together with them, can convert natural risk to tragedy and effects on vulnerable population, mostly natural disasters or destruction income resources and bio-possibilities, healthy of residents have been related and always a sever risk is for development specially in developing countries, however, at present the prevailing view has changed from focus on only vulnerable reduction to resilience promotion against accidents. On the other hand, the largest gravity center of population of Iran is Tehran city includes 22 municipal districts that has been

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surrounded with high density of active faults from north and south. Dist. 12 of Tehran is in central limit with historical tissue and dense and in various worn sections, the limit of object of studying is in macro sections of resilience has various problems and objects. The objective of this research has been evaluated assessment of urban resilience of Dist. 12, Tehran against earthquake from view of institutional & social dimensions that based on method of optimal limit. In order to operational definition of indexes in social aspect, 4 indexes with title of aging structure of population sexual structure, rate of health cover and studies level in city and in 3-index institutional aspect of institutional operation, institutional relations and institutional context have been represented and in continuation, for definition of optimal limit in this research, it was supposed that numerical amount of any index in districts throughout the world in which have been evented various crises that have been resilient versus it (such as Japan and California) , it can be considered he optimal limit of being resilient.

Methodology:

Method of research in this study is from descriptive – analytical type. Method of collection of information as librarian and fielding. In institutional resilient subject, method of questionnaire has been used for reaching to the objectives of the research its bases is a statistical society of the object of studying of citizens , residence in Dist. 12, Tehran. The volume of the sample has been calculated with using of Cochran's general formula that is No.384 of the questionnaire and method of sampling is simple randomly.

Results:

With consideration to study the information, related to urban resilience title in the boundary of Dist. 12, Tehran, institutional and social resilience indexes status in this boundary has been calculated with consideration to definition of optimal limit of number 1 for any index. For making comparable indexes, all numbers were described as normal and percent. Also, with definition of optimal limit of indexes, distance of index from the limit, has been calculated. With consideration to amount of total resilience optimum in any section will be equal to one. On the Basis, the results are as follows: the indexes, related to social resilience and its subcategory was calculated proportional to the amount, determined with the optimal limit. Among social resilience indexes subcategories, aging structure of population with number 1032 is in upper status of the optimal limit. The index of sexual structure with number 1.03 is upper than the optimal limit. Studies level among subcategories of social index with number 0.94 is in lower status of the optimal limit. Health cover among social index subcategories with number 0.68 is in status lower than the optimal limit. Among institutional resilience indexes categories, institutional index with number 0.68 is in status lower than optimal limit. Institutional operation with number 0.59 is in status lower than the optimal limit.

Conclusion:

The institutional limit is another index that was studied with number 0.54 that is in that status lower than the optimal limit. In continuation, regards to the represented findings , numerical rate of CRI meaning average of total of sub-indexes of each of institutional and social resilience aspects was calculated that in social section , number 0.99 that is having of low distance with optimal limit meaning 1 , was obtained and for institutional index , number 0.60 was obtained that it shows the operation in social section has been better proportional to institutional that it shows number 0.79 proportional to the optimal limit is in the lower status that totally, it can say, the institutional and social resilience status in Dist. 12 of Tehran is in the lower status proportional to optimal limit.