

Evaluation of Social and Cultural Resilience of Urban Land Use (Case Study: Region 1 Tehran)

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Extended Abstract

1. Introduction

The word vulnerability conveys different meanings and interpretations for different people and has been used in various areas by various groups such as researchers of accidents, the society of global environmental change researchers and also research groups in the field of food security, development, and poverty (Birkmann & Wisner, 2006). Even in the area of scientific literature related to disaster risk, the vulnerability has different connotations depending on the researcher's orientation and perspective. According to Birkmann (2006), in the current literature on vulnerability, there are two different methods to systematize the concept of vulnerability. Here some definitions are presented. (Cutter, 1996):

- Vulnerability means a threat to which people are exposed (Cutter, 1996).
- Vulnerability means the number of damages to an element or a collection of certain elements exposed to risk, resulting from the occurrence of a natural phenomenon with certain intensity and magnitude (Cutter, 1996).

Generally, vulnerability is a concept derived from the social sciences and was a response

to the perception only based on the risk that existed toward risk of accidents in the 1970s. Since the beginning of the 1980s, the dominance of technical intervention-based risk-oriented strategies in the field of disasters was challenged by the paradigm of using vulnerability as the starting point of risk reduction. The approach combines the amount of sensitivity of the people and communities exposed to risk with their cultural, economic and social capabilities to deal with injuries that may occur (Birkmann, 2006).

There are complex systems of services in cities which have tight relationships with each other, while each one facing numerous natural and man-made threats and any disruption in each of the systems causes troubles for other systems. Thus, cities should be made in such a way that they can resist the threats or in other words, be resilient (Tompkins & Hurlston, 2012).

Investigation of urban resilience is one of the vital issues for preparedness of a city against natural and man-made disasters. As the degree of resilience of cities increases, damages resulting from the hazards can be minimized (McEntire, Fuller & Weber, 2002). Also, recognition of resilience can help with the determination of the

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characteristics and features that increase the capacity of communities to deal with disasters and propose tools to help the process of vulnerability reduction.

2. Methodology

At the first step of this research, the theoretical framework was determined by collecting data from library and electronic resources and related articles. Then the important criteria and sub-criteria for assessing the urban land use Socio-cultural resilience were determined by incorporating the expert opinions and reviewing the previous research. Then the FAHP method, which incorporated the opinions of 15 experts and faculty members in the field of environmental planning, urban planning, rural planning and urban development, was used to make pairwise comparison between important dimensions and criteria. At this stage, all valuations were based on experiences and studies of those experts. After making pairwise comparisons, the maps of district resilience factors were standardized in Idrisi environment, and then the weight of each resilience factor was applied to the layers in the GIS environment. The maps were then merged to determine the resilience of the district.

3. Results

The following steps were taken to assess and determine the urban land use Socio-cultural resilience in Tehran's district 1:

- Step 1: Analysis of the role and determination of socio-cultural land use criteria for investigating resilience
- Step 2: Obtaining weight of socio-cultural land use criteria
- Step 3: Development of the fuzzy maps with respect to land use resilience criteria

The map-related to each criterion was standardized in IDRISI environment.

- Step 4: Development of resilience map of socio-cultural land use criteria

- Step 5: Development of a map of the socio-cultural resilience of land use

After applying the weights of criteria on their layers and merging them in GIS environment, Tehran's district 1 urban land use resiliency map was developed

- Step 6: Determination of socio-cultural resilience of land use

Six levels of resilience were defined to classify the district 1 urban land use resiliency; these levels included: fully resilient, resilient, moderately resilient (moderately vulnerable), vulnerable, and fully vulnerable.

4. Conclusion

The socio-cultural dimension plays an important role in enhancing the urban resilience. This dimension consisted of 8 criteria including population density, and land uses related to healthcare, education, culture, tourism, sports, law enforcement, and religion. After overlaying all layers corresponding to criteria, district 1 gained an average resiliency score of 0.69, which indicate the resilience of this district with respect to this dimension.

Given the findings of the study, the following suggestions are recommended:

- Creating tourism camps and improving the facilities and services in areas hosting tourist attractions;
- Facilitating and encouraging the private sector to invest in the district's tourism business;
- Preventing new construction on undeveloped lands and saving these lands for crisis management applications by converting them to open spaces such as sports grounds, garden and temporary bazaars;
- Using cultural centers to raise the citizens' awareness and enhance their mental readiness to deal with disasters;
- Using the advertisement potential of cultural centers and tourist attractions to inform people about the resiliency of their living environment to motivate

them to reconstruct and reinforce these environments;

- Reorganization and relocation of military bases in the region out of the urban territory;
- Considering the low level of sports space per capita and the inadequate distribution of these spaces, and given the availability of undeveloped land

throughout the district, the development of new multifunction sports spaces with adequate distribution and with proper attention to their crisis management functions is recommended.

Keywords: Resilience, Socio-cultural, Urban Land use, vulnerable, Tehran's district 1

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