

Assessing Human Resilience at Inefficient Urban Textures (Case Study: The Inefficient Textures of Sanandaj City)

Shayesteh Abbasi

PhD Candidate in Geography and Urban Planning, Isfahan University, Isfahan, Iran

Asghar Zarrabi¹

Professor in Geography and Urban Planning, Isfahan University, Isfahan, Iran

Abolfazl Meshkini

Assistant Professor in Geography and Urban Planning, Tarbiat Modares University, Tehran, Iran

Received: 24 April 2019

Accepted: 18 September 2019

Extended Abstract

1. Introduction

The world is rapidly becoming urbanized. According to the current global urban population growth rate, it is estimated that the population in cities in 2014 will reach 66% by 2050. Such a situation involves major administrative implications; it is the acceleration of growth over development or in other words, the accumulation of a set of problems and issues caused by the accelerated growth which cannot be managed or mitigated by local administration and financial, technical and human resource provisions. Subsequently, as the implications of this growth rate, issues including poverty, unemployment, unsuitable housing and rich neighborhoods have become a major feature of metropolitan cities in southern countries. According to studies, there exists 130,000 acres of inefficient textures in the country which occupies 30% of the total urban area and accommodates over 19 million people. Sanandaj has been one of the moderate cities which, alongside many other urban areas, has witnessed a rapid population growth. The fast growth rate along with the absence of proper management has led to the formation and expansion of inefficient urban textures. Having accommodated a considerable number of population, these areas include historical textures, illegitimate settlements, inefficient textures with rural backgrounds, maladaptive urban zones, and central inefficient textures. The purpose of the present study is to examine and assess human resilience indices in sociocultural, economic, and organizational-administrative aspects within the areas in Sanandaj cities with inefficient textures. To this end, the following research questions were formulated: Are inefficient textures in Sanandaj resilient in terms of human aspects? Is human resilience involve a different status in each type of inefficient texture?

2. Theoretical Framework

Introduced in the 1970s by C. S. Holling, a Canadian ecologist, the concept of resilience has increasingly been assessed and studied. Timmerman (1981) was the first individual to use the concept of resilience in the area of risks and disasters. At the global scale, the international union for disaster risk reduction strategies offered a plan titled, "Improving

1. Corresponding author. E-mail: aszarrabi@yahoo.com

the Resilience of Societies against Disasters” under the Hugo plan framework for the period of 2005-2015. Following the end of the Hugo framework aimed at increasing and improving the resilience of societies and nations against disasters, the Sendai framework (2015-2030) was approved on March 18th 2015 at the 3rd UN conference in Sendai, Japan, with the purposed of reducing the risk-taking level of societies. Nevertheless, studies on urban resilience are still on the rise due to the global attention paid to this notion. Resilience is a combination of “absorbing disorders and returning to the previous state”, “self-organization”, and “increased learning capacity and adaptation”. Albeit, the inherent concept of resilience has also been expanding. Accordingly, a consensus has been formed today on the following definition of resilience: Resilience involves i) the turmoil that can be absorbed by a system to the extent that the system is able to retain its former state, ii) self-organization ability of the system, and iii) the ability of the system in creating and increasing learning capacity and adaptation and ultimately, development when required.” Despite the growth and expansion of the use of resilience, there has yet to be a particular set of organized indices to quantify resilience against disasters; however, there is a consensus among the scientific community according to which, resilience is a multidimensional concept that includes social, economic, institutional, and physical aspects.

3. Method

The present inquiry is conducted using the descriptive-analytical method in which data were collected using library-field studies. Domestic and foreign library studies were employed to extract indices; then, the indices were presented to 30 experts in different majors to indicate their level of importance. Furthermore, to evaluate the extent of resilience at the area, 382 questionnaires were distributed across various districts. Data from household questionnaires were inserted into the SPSS software and the extent of resilience at different dimensions were extracted using one-sample t test. To analyze the effective factors on human resilience, structural equations were used in the LISREL software. Variance analysis test was employed to explain the extent of resilience mean difference in various type of inefficient textures. Ultimately, different types of textures were classified using the Duncan test.

4. Results and Discussion

Findings suggest that the extent of resilience at the area of the study was 3.16; as the figure is below the 3.50 average, it can be expressed that the inefficient texture area is not resilient. Given the examined dimensions, the sociocultural dimension had a value of 3.64 which was more than the 3.50 average, therefore relatively resilient. The lowest resilience value, i.e. 2.75 belonged to the economic aspect followed by the administrative aspect with a value of 3.09. The structural equations of the effective factors on resilience also demonstrated that social factors with a value of 0.74 was the most important in explaining resilience, followed by economic and institutional factors with values of 0.68 and 0.61, respectively. Moreover, there is a

significant difference between various types of inefficient textures in terms of human resilience. As for the set of human indices, textures with rural backgrounds and illegitimate settlements were classified in the first group while central inefficient texture and the historical texture were placed in the second group.

5. Conclusion

The results show that inefficient texture resilience across Sanandaj city is at an undesirable state. Considering the low resilience level in economic and administrative dimensions and their significance in the resilience of the area, necessary attempts should be made in line with improving said indices. Compared to other areas of inefficient textures, illegitimate settlements and textures with rural backgrounds involve more unsuitable conditions. Given the diversity of texture types and their different conditions, different strategies should be taken into account in order to improve human resilience.

Keywords: Human Resilience, Inefficient Textures, Sanandaj City

References (In Persian)

1. Eghbali, N., & Rahimi, M. (2010). ساختار شهری سنندج در تصرف سکونتگاه‌های غیررسمی [The urban structure of Sanandaj is dominated by informal settlements]. *Human Geography*, 2(4), 57-72.
2. Eslami, A., & Ebraimi Dehkordi, A. (2018). سنجش میزان تاب آوری اجتماعی در محلات [Assessing social resilience in informal settlements (Case study: Omatabad, Amol)]. *Architecture*, 1(1), 137-146.
3. Hajinezhad, A., Badali, A., & Aghaei, V. (2015). بررسی عوامل مؤثر بر آسیب‌پذیری ناشی از زلزله در مناطق شهری دارای سکونتگاه‌های غیررسمی با استفاده از GIS (مطالعه موردی: مناطق ۱ و ۵) [The survey effective factors in vulnerability due earthquake in informal district of city zones with application of GIS (Case study: 1 and 5 zones of Tabriz)]. *Journal of Natural Environment Hazards*, 4(6), 33-56.
4. Irandoost, K., & Tavalalaie, E. (2012). الگوی مسکن فقرا در سکونتگاه‌های غیررسمی نمونه [The model of home for the poor in informal settlements (Case study: Abbasabad, Sanandaj)]. *Sakht Shahr*, 21, 2-12.
5. Kalantari, Kh. (2013). مدل‌سازی معادلات ساختاری در تحقیقات اجتماعی-اقتصادی (با برنامه LISREL و SIMPLIS) [Modeling structural equations in socio-economical researches (Using LISREL and SIMPLIS)]. Tehran, Iran: Saba.
6. Lotfi, H., Mofareh, M., Aftab, A., & Majnoony, A. (2018). نقش حکم‌روایی مطلوب شهری در افزایش تاب‌آوری سکونتگاه‌های غیررسمی در ایران (مطالعه موردی: کلان شهر تبریز) [The role of good urban governance in increasing the resilience of informal

- settlements in Iran; Case study: Tabriz megalopolis]. *Reginal Planning*, 8(2), 209-224.
7. Meshkini, A., Sajadi, Zh., Dindost, J., & Tafakori, A. (2011). ساماندهی سکونتگاه‌های غیررسمی با شیوه توانمندسازی (نمونه موردی باقرشهر- محله باباجعفری) [Improving informal settlements through empowerment, the case study of "Baghershahr" (The "Baba Jafari" neighborhood)]. *Geographical Research*, 26(3), 123-148.
 8. Ministry of Roads and Urban Development. (2014). سند ملی راهبردی احیاء، بهسازی و [National strategic document for renovation, improvement and empowerment of old and inefficient urban textures]. Tehran, Iran: Ministry of Roads and Urban Development.
 9. Moazami, B., & Rahimi, M. (2016). سنجش و تدوین راهبردهای تاب‌آوری در مقابل بحران، [Assessing and formulating strategies for resilience to withstand disasters in old urban area in Faizabad's neighborhood in Kermanshah]. *Geography and Environmental Studies*, 5(18), 23-34.
 10. Mohammad Reza Rezaei¹; Mojtaba Rafieian²; Seyed Mostafa Hosseini (2006). [Measurement and evaluation of physical resilience of urban communities against earthquake (Case study: Tehran neighborhoods)]. *Human Geography Research*, 47(4), 609-623.
 11. Mohammadi Sarin Dizaj, M, & Ahadnejad Roshti, M. (2016). ارزیابی میزان تاب‌آوری [The evaluation of the urban fabric resiliency against earthquake risk Case Study: Zanjan]. *Spatial Analysis Environmental Hazards*, 3(1), 103-114.
 12. Mohammadi, A., Ashouri, K., & Robati, M. K. (2017). تبیین و ارزیابی مؤلفه‌های تاب-آوری نهادی و اجتماعی در سکونتگاه‌های خودانگیخته شهری (مطالعه موردی: ناحیه منفصل شهری نایسر) [evaluating the components of institutional and social resilience in urban spontaneous settlements (Case study: Naisar separated urban district in Sanandaj)]. *Urban Studies*, 6(22), 75-88.
 13. Movahedizadeh, H. R. (2014). [An introduction to basics of events and its relationship with planning development]. Tehran, Iran: Urban Development and Revitalization Organization of Iran.
 14. Rezaie, M. R. (2013). تبیین تاب‌آوری اجتماعات شهری به منظور کاهش اثرات سوانح طبیعی (زلزله) مطالعه موردی: کلانشهر تهران [Expining social urban resilience for decreasing natural events (earthquake); Case study: Tehran metropolice], (Unpublished master's thesis). Tarbiat Modares University, Tehran, Iran.
 15. Sardarnia, Kh., Ghodrati, H., & Eslam, A. (2009). تأثیر حکمرانی خوب و سرمایه اجتماعی بر اعتماد سیاسی: مطالعه موردی شهرهای مشهد و سبزوار [The impact of good governance and social capital on political trust: Case study of Mashad and Sabzevar cities]. *Political Sciences*, 5(1), 135-165.

16. Sedaghat Rostami, K., Etemad, G., Bidram, R. & Molaz, J. (2011). تدوین شاخص - [Drawing up some indexes to recognizing blighted fabrics]. *Spatial Planning*, 1(1), 103-120.
17. Sotouhian, F., Ramezanour, A. M., Haghnia Roshanfekar, J., & Sheidaie, P. (2006). آسیب پذیری بافت های تاریخی و راهکارهای محافظت در مقابل بحران زلزله [Vulnerability of historical buildings and protection strategies against earthquake crisis]. Paper presented in the 4th National Conference on sustainable development in Geography and Planning, Rchitecture and Urbanism. Mehr Arvand University, Tehran, Iran.
18. Taghvaie, M., Boshagh, M. R., & Salarvand, A. (2012). آزمون فرضیه های پژوهش با SPSS [Testing research hypotheses using SPSS]. Isfaha, Iran: Shakhespajouh Research Center of Managing Natural Crises and Passive Defense.
19. Zakerhaghighi, K., Majedi, H., & Habib, F. (2010). تدوین شاخص های مؤثر بر گونه شناسی بافت شهری [Identifying effective indicators for typology of urban fabrics]. *Hoviateshahr*, 5(7), 105-112.

References (In English)

1. Abunyewah, M., Gajendran, T., & Maund, K. (2018). Profiling informal settlements for disaster risks. *Procedia engineering*, 212, 238-245.
2. Carpenter, S., Walker, B., Anderies, J. M., & Abel, N. (2001). From metaphor to measurement: resilience of what to what? *Ecosystems*, 4(8), 765-781.
3. Holling, C. S. (1973). Resilience and stability of ecological systems. *Annual review of ecology and systematics*, 4(1), 1-23.
4. Internal Displacement Monitoring Center. (2014). Global estimates: People displaced by disasters. Geneva, Switzerland: IDMC.
5. Norris, F. H., Stevens, S. P., Pfefferbaum, B., Wyche, K. F., & Pfefferbaum, R. L. (2008). Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *American journal of community psychology*, 41 (1-2), 127-150.
6. Rose, A. (2004). Defining and measuring economic resilience to disasters. *Disaster Prevention and Management: An International Journal*, 13(4), 307-314.
7. Timmerman, P. (1981). Vulnerability, resilience and the collapse of society: a review of models and possible climatic applications. *International Journal of Climatology*, 1(4), 396-396.
8. UN/ISDR. (2005, January 18-22). Hyogo framework for 2005-2015: Building the resilience of the nations and communities to disasters. Paper presented at World Conference on Disaster Reduction. Kobe, Hyogo, Japan.
9. Weakley, D. J. (2013). *Recognising vulnerability and resilience in informal settlements: The case of Kya Sands, Johannesburg, South Africa*, (Unpublished master's thesis). University of the Witwatersrand, Johannesburg.

10. Weakley, D. j. (2014). *Recognizing vulnerability and resilience in informal settlements: The Case of kya Sands, Johannesburg, South Africa*, (Unpublished master's thesis). University of the Witwatersrand, Johannesburg.

How to cite this article:

Abbasi, Sh., Zarrabi, A., & Meshkini, A. (2020). Assessing human resilience at inefficient urban textures (Case study: The inefficient textures of Sanandaj City). *Journal of Geography and Regional Development*, 18(1), 51-75.

URL <http://jgrd.um.ac.ir/index.php/geography/article/view/80210>