Sustainable Urban & Regional Development Studies Quarterly

**Volume 7, Issue 1 - Serial Number 23, Spring 2026** **Online ISSN: 2783-0764**
**Journal Hompage https://www.srds.ir/**
**https://www.srds.ir/article_243177.html?lang=en**

# Evaluation of the Role of Urban Social Resilience in Encountering the Consequences of War (Case Study: Ahvaz City)

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**Received Date:** 22 December 2025 **Accepted Date:** 04 May 2026

## Abstract

**Background and Objective:** Urban social resilience, as one of the key pillars of crisis management and sustainable development, has an inseparable link with the capacity of urban communities to endure, adapt, and return to a desired state in the face of external shocks. Meanwhile, the experience of war and its enduring consequences impose specific structural and social vulnerabilities on urban fabrics that require an approach beyond standard crisis management. This research was conducted with the aim of evaluating the role of social resilience in enhancing the capacity of Ahvaz city to confront the multi-dimensional consequences of war and analyzing the resilience capacities of residents in the face of these challenges.

**Methodology:** This research is applied in nature and follows a descriptive-analytical methodology with a quantitative approach. To achieve the research objectives and evaluate the role of social resilience in addressing the consequences of war in Ahvaz, the key variables were first extracted and organized into a conceptual model using documentary and library research. For this purpose, eight components were identified for "social resilience" (including social capital, social trust, participation and interaction, sense of belonging, social leadership, values and norms, knowledge and information, and collective efficacy) and three components for "post-war consequences" (including physical indicators, social-psychological impacts, and reconstruction status).

**Results and Findings**: Data analysis was conducted using Structural Equation Modeling (SEM) and the Partial Least Squares (PLS) approach via Smart-PLS software. The results demonstrate a favorable model fit in explaining the complex relationships between social resilience and post-war consequences in the city of Ahvaz. Structural analyses confirm that all hypotheses were significant at the 99% confidence level, indicating that social resilience plays a key role in mitigating the impacts of war. Components such as "collective participation," "local cohesion," and "community-based approaches to reconstruction" have the greatest impact on enhancing citizens' resilience. While validating the measurement instrument, these findings emphasize prioritizing justice in reconstruction to strengthen sustainable resilience in this metropolis.

**Keywords:** Resilience, Social Resilience, War, Structural Equation Modeling (SEM), Ahvaz City.

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**Cite this article:** lotfizadeh,D. , goodarzi,M. and soltani,Z. (2026). Evaluation of the Role of Urban Social Resilience in Encountering the Consequences of War (Case Study: Ahvaz City). Journal of Sustainable Urban & Regional Development Studies (JSURDS), 7(1), 476-502.

# EXTENDED ABSTRACT


## Introduction

Cities, as the most complex human systems, have always faced diverse disasters and challenges, with contemporary urbanization accelerating novel crises and unpredictability. This situation underscores the need to enhance urban resilience; the crisis management paradigm has shifted from mere vulnerability reduction to a comprehensive resilience concept. Resilience ensures urban systems' capacity to resist, adapt, and recover quickly from natural and human shocks, especially in developing cities with deteriorated infrastructure. Social resilience, the key dimension, represents communities' ability to adapt to changes and respond to crises, particularly vital in low-income and self-organized contexts. Against war, it goes beyond physical reconstruction to rebuilding social trust, local cohesion, and civic identity. Unidimensional approaches focusing solely on infrastructure create lifeless, vulnerable spaces, whereas social capital transforms the city into a dynamic habitat. In Ahvaz city, shaped by Sacred Defense experiences, assessing social resilience is not only strategic but essential. Neglecting it perpetuates long-term social damages. Research in this area, by extracting community adaptation patterns, transitions from reactive to proactive management, strengthening interpersonal ties and civic participation to ensure sustainable urban security against future threats.

## Methodology

This research, with a practical approach and quantitative descriptive-analytical method, presents a model for evaluating social resilience in Ahvaz city against war consequences; it employs Structural Equation Modeling (SEM) and PLS-SEM in SPSS and Smart-PLS software to analyze latent variable relationships. The statistical population includes 386 experts in urban planning, crisis management, and defense (stratified relative sampling based on Cochran-Morgan formula), and the instrument is a researcher-designed questionnaire with high validity/reliability (AVE, CR, and Cronbach's alpha >0.7) across two domains: social resilience (including social capital, trust, participation, sense of belonging, leadership, values, knowledge, collective efficacy) and post-war consequences (physical, social-psychological, reconstruction status). The indicators table details sub-indicators, and analyses ensure operational validity of findings.

## Results and Findings

In Structural Equation Modeling (SEM), data analysis is conducted in two stages: the measurement model (outer) and the structural model (inner). The outer model evaluates convergent validity through factor loadings (>0.6), composite reliability (>0.7), and AVE (>0.5); results from Tables 4 and 5 indicate good fit, with Cronbach's alpha above 0.7 and AVE ranging from 0.5-0.77 for constructs like social resilience and post-war consequences. Divergent validity was confirmed using Fornell-Larcker and HTMT methods; the square root of AVE on the main diagonal exceeds correlations, though some close relationships (e.g., social-psychological and post-war consequences) reflect interconnectedness in Ahvaz's context. This conceptual distinction prepares the model for structural analysis. Overall fit indices (Table 9: SRMR=0.113) and information criteria (Table 10: negative AIC/BIC) confirm optimal model fit.

CFA results and removal of 9 weak items optimized the model, with favorable AVE/CR (0.54-0.908) proving internal consistency. Figures 8 and 9 display path coefficients and t-values,

where statistics above 1.96 confirm relationship significance at 95% confidence. The one-sample t-test assessed indicator impacts based on means >3 (Likert scale); social resilience (t=0.232, mean=0.548) has the strongest effect on mitigating war consequences. Participation/interaction (t=16.953) and collective efficacy (t=15.786) are key resilience drivers, while reconstruction status/physical (t>13) are primary consequence factors, validating the model in Ahvaz's context.

**Conclusion**

Data analysis was conducted using Structural Equation Modeling (SEM) and the Partial Least Squares (PLS) approach via Smart-PLS software. The results demonstrate a favorable model fit in explaining the complex relationships between social resilience and post-war consequences in the city of Ahvaz. Structural analyses confirm that all hypotheses were significant at the 99% confidence level, indicating that social resilience plays a key role in mitigating the impacts of war. Components such as "collective participation," "local cohesion," and "community-based approaches to reconstruction" have the greatest impact on enhancing citizens' resilience. While validating the measurement instrument, these findings emphasize prioritizing justice in reconstruction to strengthen sustainable resilience in this metropolis.

## Declarations


### Funding

There is no funding support for this study.


### Authors' Contribution

Authors contributed equally to the conceptualization and writing of the article. All of the authors approved the content of the manuscript and agreed on all aspects of the work declaration of competing interest none.

### Conflict of Interest

The authors declare no conflict of interest.


### Acknowledgments

We are grateful to all the scientific consultants of this paper.


## References


Abastante, F., Lami, I. M., La Riccia, L., & Gaballo, M. (2020). Supporting resilient urban planning through walkability assessment. Sustainability, 12(19), 8131. https://doi.org/10.3390/su12198131

Akbari, N., Toghyani, S., Andalib, A. and Mohamadi, M. (2020). Priority assessment of aspects of resilience in the regulations regarding the regeneration of urban decay (case study: Sirus neighborhood, Tehran). *Advanced Environmental Sciences*, *18*(2), 111-130. (In *Persian*). Doi: 10.29252/envs.18.2.111

Akbari, S., Sholeh, M. and Lotfi, S. (2024). Re-composing Physical Form with Energy-Based Resilience Approach to Improve Thermal Comfort (Case Study: Sadra New Town). *Journal of Urban Sustainable Development*, *5*(15), 1-20. (In *Persian*). Doi: 10.22034/usd.2024.2010493.1123

Alizadeh, H., Sharifi, A., Damanbagh, S., Nazarnia, H., & Nazarnia, M. (2023). Impacts of the COVID-19 pandemic on the social sphere and lessons for crisis management: a literature review. Natural Hazards, 117, 2139-2164. https://doi.org/10.1007/s11069-023-05959-2

Alizadeh، H.، & Sharifi، A. (2020). Assessing Resilience of Urban Critical Infrastructure Networks: A Case Study of Ahvaz، Iran. Sustainability، 12(9)، 66-91. https://doi.org/10.3390/su12093691

Ardalan, D., Davoodpour, Z., & Ziyari, K. (2020). Comparison of two theories of urban governance and institutional resilience in the urban management system using content analysis and presenting an improved model (case study: Qazvin city). *Journal of Human Settlements Planning Studies*, *15*(1), 141–159. (In *Persian*). https://www.magiran.com/p2133812

Behzadfar, K., & Akbari, P. (2019). Explanation and analysis of land use planning criteria in earthquake risk reduction to increase urban resilience (Case study: Sanandaj city). New Attitudes in Human Geography, 11(2), 341-357. (In *Persian*). https://sid.ir/paper/521766/

Cao, H. (2023). Urban resilience: concept, influencing factors and improvement. Front. Bus. Econ. Manag, 9(1), 343-346.

Chen, Y., Huang, Y., Li, K., & Luna-Reyes, L. F. (2019). Dimensions and measurement of city resilience in theory and in practice. In Proceedings of the 12th International Conference on Theory and Practice of Electronic Governance (pp. 270-280). https://doi.org/10.1145/3326365.3326401

Ciesiółka, P., & Maćkiewicz, B. (2022). In Search of social resilience? regeneration strategies for Polish cities. Sustainability, 14(19), 11-26. https://doi.org/10.3390/su141911969

Cutter, S. L., Mitchell, J. T., & Scott, M. S. (2008). Revealing the vulnerability of people and places: A case study of Georgetown County. Annals of the Association of American Geographers, 90, 1-19. doi: https://doi.org/10.1191/1464993403ps049ra

Eslami, A., & Ebrahimi Dehkordi, A. (2018). Assessing the level of social resilience in informal settlements (Case study: Ommat Abad neighborhood, Amol). Memari Shenasi, 1(1), 1-9. (In *Persian*). https://sid.ir/paper/510351/fa

Feliciotti, A., Romice, O., & Porta, S. (2017). Urban regeneration, masterplans and resilience: the case of Gorbals, Glasgow. Urban Morphology, 21(1), 61-79. https://doi.org/10.51347/jum.v21i1.4063

Fuady, M., Buraida, Kevin, M. A., Farrel, M. R., & Triaputri, A. (2025). Enhancing urban resilience: opportunities and challenges in adapting to natural disasters in Indonesian cities. Sustainability, 17(4), 16-32. https://doi.org/10.3390/su17041632

Gorji, M., Khademolhosseini, A., Ezani, M., & Saberi, H. (2021). Explaining the social resilience of worn-out urban fabric using PLS structural equation modeling: Case study of District 3 of Isfahan city. *Spatial Planning*, *11*(3), 145–166. (In *Persian*). https://www.sid.ir/paper/1061687

Hatami, A., Parvizi, S., & Akbari Manferd, B. (2022). Evaluation of urban resilience dimensions and indicators in the worn-out urban fabric of Borujerd city. *Economic Geography Research*, *3*(9), 39–58. (In *Persian*). https://civilica.com/doc/1692225/

Heidari Far, M. R., Soleimani Rad, E., & Hosseini Siahgoli, M. (2020). Investigating the role of natural hazards and crisis management in land use planning: A case study of Kermanshah Province. Quarterly Journal of Sustainable Urban and Regional Development Studies, 1(1), 55–76. (In *Persian*). doi: https://www.srds.ir/article_122918.html

Jalalian, E., Hendekhaleh, E. N., & Eizadbin, N. (2021). Dimensions of social resilience in urban areas. Int. J. Hum. Capital Urban Manage, 6(3), 237-252. (In *Persian*).

Karrimian Bostani, M., Poodineh, S., Sadegh Bakhtiari, M., & Sarabandi, Z. (2023). Assessing the level of social resilience in urban dilapidated textures with a futures studies approach (Case study: Zabol city). Urban Futures Studies, 1(1), 1-19. (In *Persian*). https://doi.org/10.30495/uf.2022.1945714.1010.

Koc, E., Cetiner, B., Rose, A., Soibelman, L., Taciroglu, E., & Wei, D. (2020). CRAFT: Comprehensive Resilience Assessment Framework for Transportation Systems in Urban Areas. Advanced Engineering Informatics, 46, 19-39. https://doi.org/10.1016/j.aei.2020.101171

Kolte, R., Goswami, S., Kumar, A., & Pipralia, S. (2023). Challenges in practical implementation of the concept of urban resilience in cities. International Journal of Disaster Risk Reduction, 99, 104142. https://doi.org/10.1016/j.ijdrr.2023.104142

Li, W., Li, Q., Jia, L., Hou, D., Wang, S., & Liu, Y. (2025). Resilience Regeneration Priorities for Old Blocks Based on Public Satisfaction: A Case Study of Beijing, China. Buildings, 15(4), 536-553. https://doi.org/10.3390/buildings15040536

Maguire, B., & Hagan, P. (2017). Disasters and communities: understanding social resilience. The Australian Journal of Emergency Management, 22(2), 16-20.

Mirzaei, M., Mohammadi, M., & Toobchi Sani, A. (2022). Evaluation of the Importance of Physical Resilience Criteria in Urban Dilapidated Fabrics Using the Improved Analytic Hierarchy Process (IAHP). Journal of Prevention and Crisis Management, 12(4), 409-422. (In *Persian*). URL: http://dpmk.ir/article-1-537-fa.html

Moaddab, R. & Amini Hosseini, K. (2020). An investigation on effective dimensions and indicators in measuring resilience of historic-commercial urban fabrics against earthquake hazards with a special view to traditional Bazaars. Environmental Management Hazards, 7(3), 265-280. (In *Persian*). Doi: 10.22059/jhsci.2020.308455.588.

Moghim, S., & Garna, R. K. (2019). Countries' classification by environmental resilience. Journal of Journal of Environmental Management, 230(15), 345-356. (In *Persian*).

Monavarian, A., Amiri, M., & Mehri Goli, S. (2018). Identifying the factors affecting the increase of social resilience in vulnerable and dilapidated neighborhoods facing natural disasters (Case study: Tehran). Urban Management Studies, 10(34), 1-18. (In *Persian*). https://sanad.iau.ir/Journal/ums/Article/824488

Moradpour N, Pourahmad A, Hesaraki Zad A. (2025). Resilience of Inefficient Urban Fabrics for Urban Sustainability: A Comprehensive Perspective for Future Cities. JFCV 2025; 6 (3): 9. (In *Persian*). URL: http://jvfc.ir/article-1-271-fa.html

Mosavi, M. N. and Kamelnia, R. (2026). Assessment of social resilience in villages around Urmia city. Journal of Sustainable Urban & Regional Development Studies (JSURDS), 7(1), 136-151. https://www.srds.ir/article_219749.html

Motamedi M, gharavi M. (2020). Assessing the Model of Resilience of Cities with Fuzzy Dematel Approach, Case study: Gorgan and Shirvan cities. jgs. 20(56), 329-348. (In *Persian*). doi:10.29252/jgs.20.56.329

Naghdi A, Mafia E, vatanparast M. (2021). Analysis of status of resilience indices in urban fabric (Case study: Faruj worn out fabric). jgs. 21(60), 219-238. (In *Persian*). doi:10.52547/jgs.21.60.219

Norouzi, V., Abbaspour, M., & Ahmadi, A. (2020). Identification and determination of the contribution of components, criteria, sub-criteria and indicators of resilience in the

management system of resilient metropolis. New Attitudes in Human Geography, 12(2), 229-250. (In *Persian*).

Peng, S., Li, Q., Chen, Z., Du, H., Liu, Y., & Li, W. (2024). Resilience Evaluation and Renovation Strategies of Public Spaces in Old Communities from a Disaster-Adaptive Perspective. Sustainability, 16(16), 68-87. https://doi.org/10.3390/su16166823

Rusta, M., Ebrahimzadeh, I. and Istgaldi, M. (2017). The Analysis of Physical Resilience Against Earthquake in Old Texture of City Zahedan Boarder city. *Geography and Development*, *15*(46), 1-18. doi: 10.22111/gdij.2017.3021.

Saja, A. A., Teo, M., Goonetilleke, A., & Ziyath, A. M. (2021). A critical review of social resilience properties and pathways in disaster management. International Journal of Disaster Risk Science, 12(6), 790-804. https://doi.org/10.1007/s10901-025-10213-1

Sakarya, A., & Bektaş, Y. (2025). Urban regeneration in response to natural disasters: Insights from the 2023 Kahramanmaraş earthquakes. Journal of Housing and the Built Environment, 1-31. https://doi.org/10.1007/s13753-021-00378-y

Shamaee, A., Sasanpour, F., & Alihoseini, R. (2019). Spatial analysis of urban resilience in the neighborhoods of the central part of Tabriz city. Journal of Urban Planning and Geographical Research, 7(2), 349-374. (In *Persian*). Doi: 10.22059/jurbangeo.2019.271048.1018.

Sharifi, A. (2023). Resilience of urban social-ecological-technological systems (SETS): A review. Sustainable Cities and Society, 99, 13-39. https://doi.org/10.1016/j.scs.2023.104910

Vasilevska، L.، & Slavković، M. (2024). Urban resilience: Definitions، understanding and conceptualization. Facta Universitatis، Series: Architecture and Civil Engineering، 22(2)، 87-103. https://doi.org/10.2298/FUACE230630023V

Wang, H., Liu, Z., & Zhou, Y. (2023). Assessing urban resilience in China from the perspective of socioeconomic and ecological sustainability. Environmental Impact Assessment Review, 102, 107-123. https://doi.org/10.1016/j.eiar.2023.107163

Yabe, T., García Bulle Bueno, B., Frank, M. R., Pentland, A., & Moro, E. (2025). Behaviour-based dependency networks between places shape urban economic resilience. Nature human behaviour, 9(3), 496-506. https://doi.org/10.1038/s41562-024-02072-7

Yuan, S., Maliki, N. Z., & Li, R. (2025). Enhancing resilient sustainable cities: public perspectives of urban resilient design. International Development Planning Review, 47(3), 283-308. https://doi.org/10.3828/idpr.2025.3

Zeng, X., Yu, Y., Yang, S., Lv, Y., & Sarker, M. N. I. (2022). Urban Resilience for Urban Sustainability: Concepts, Dimensions, and Perspectives. Sustainability, 14(5), 24-41. https://doi.org/10.3390/su14052481

Zhao ،R. ،Fang ،C. ،Liu ،J. ،& Zhang ،L. (2022). The evaluation and obstacle analysis of urban resilience from the multidimensional perspective in Chinese cities. Sustainable Cities and Society,86, 104160. https://doi.org/10.1016/j.scs.2022.104160