Satisfaction Evaluation of the Quality of Life in Biological Complexes after an Earthquake Event Case Study: Zirkooh (Ghaen))

Ali Hajinejad[a1], AliakbarAnabestani[b], MaliheNoruzi[c], SayedehSomayeh Khatami[d]

[a] *Department of Geography, University of Guilan, rasht, IRAN*
[b] *Department of Geography, FerdowsiUniversity of Mashhad, Mashhad, IRAN*
[c] *MA in Geography and Rural Planning, University of Sistan and Baluchestan, Zahedan, IRAN*
[d] *PhD Candidate in Geography and Rural Planning,FerdowsiUniversity of Mashhad, Mashhad, IRAN*

Received 4 February 2015
Accepted 13 September 2015

1. Introduction

Earthquake is a significant natural disaster which always affects different areas. Zirkooh city due to the existence of active faults always faces destructive earthquakes (Rajabi, 1384, p. 279). In May 9, 1997 this city was stricken by a severe earthquake with an intensity of 1.7 Richter scale, and faced severe physical injuries, financial, and social damages. Following the earthquake, Islamic Republic Housing Foundation of Southern Khorasan province which is in charge of the construction of villages hit by natural disasters, adopted aggregation and integration policies. Because of the need to address in timely manner to the damaged villages has caused to pay less attention to some factors such as economic, social-cultural, and skeletal and also village residence satisfaction of their life quality in biological complexes which this leads to negative consequences. In this regard, the survey was conducted in response to the main question that is, "Is accommodation of the villagers of earthquake-stricken villages in rural biological complexes could answer their satisfaction of life quality compared to their life condition before earthquake?"

2. Study Area

Zirkooh city is located in the northeast of southern Khorasan with its central city named HajiAbad It is bordering RAZAVI KHORASAN from the north and from the south is bordering DARMIAN city. From the west, it is bordering QAEEN city , and also is bordered by Afghanistan from east side. Totally, this city has 138 towns that among them 103 towns have residents and 35 are haunted towns. (South KhorasanPlanning Department, 1393). The study area of this research is villages' damaged areas by the earthquake of May 9, 1997 that these areas have been resettled in four complexes named, BARENJAN, HAJI ABAD, GAMANJ and MEHMANSHAHR.

1 Corresponding author: Ali Hajinejada. Tel: +9809121156908 E-mail: ahajinejad@yahoo.com

3. Matarial and Methods

This study is practical in term of purpose and analyticalin term of method. The statistical population is integrated rural areas by earthquake of May 1997 that are resettled in four complexes (BARENJAN, HAJI ABAD, GAMANJ, and MEHMANSHAHR). Among them 227 households were chosen by Cochran method. To analyze the data, descriptive statistics (central index and dispersion) and and Wilcoxon non-parametric and t parametric of dependent samples are used.

4. Results and Discussion

Analyzing the results of the Wilcoxon test indicated that the rate of economic satisfaction of rural residents compare to previous settlement is not significantly different. Reviewing acquired data of dependant two-sample t test totally, is an indication of increasing the satisfaction rate of cultural-social in all complexes. Analyzing the findings of dependant two-sample t test overall, showed that the rate of villagers' spatial-physical satisfaction after the earthquake and their accommodation in biological complexes compared to their condition before the earthquake in all complexes has increased. Overall employment quality, income, education, attendance, social and environmental cohesion, in all complexes was in a low rate. Surveying residents' view based on Likert, indicated that the majority of the respondents are satisfied with their life quality in these biological complexes.

5. Conclusion

In this study, satisfaction of life quality in biological complexes was checked using the collected data of questionnaires in Zirkooh city. To check the findings of this study, it can be deduced that aggregation and integration of sample villages lead to improved spatial-physical and socio-cultural quality and hence villagers' satisfaction In contrast the role of economic quality of complexes in resident satisfaction in rural areas was in low rate. In study complexes due to lack of attention to the occupation productivity and inequality in job opportunities in one hand and water and soil resources constrain on the other hand, made placed residents reuse their previous resources locating in previous areas. And this fact increased the distance between living place and working place so that villagers have to spend more time for transportation. Taken together, these factors have reduced the level of labor productivity and have increased costs and expenses.

Keywords: Earthquake, Rebuilding, Biological complex, Satisfaction, Zirkooh city.

References (in Persian)

1. Babai, F. (2009). *Exploring how people participate in the reconstruction of post-traumatic housing (Case Study: Evaluation of public participation in the reconstruction of the earthquake of 2002 AVAJ Qazvin*) (Unpublished master's thesis). Shahid Beheshti University, Tehran.
2. Ebrahimi, M. H., Kananpoor, Y., & Ehteshamipour, M. (2005). lessons from risk management and crisis earthquake. *Procceding of the scientific conference of the Bam earthquake(Pp. 1-12),* 4 ferruary 2004, Tehran: Iranian Management and Planning Organization.

3. Fallahi, A. R. (2007). Sustainable development of stable, *Procceding of the Workshop on Sustainable Development of Bam*. 14 July 2007, Tehran: Housing and Urbaning Ministry .
4. Ghaffari, Gh. R., & Omidi, R. (2008). *Quality of life, social development index*. Tehran: Shirazeh Publication.
5. Ghaffari, Gh. R., Karimi, A. R., & Nozari, H. (2012). The quality of life in Iran. *Journal of Social Studies and Research*, *1*(3), 107-134.
6. Ghanbari, A., Soltanzadeh, A., & Seddiq, M. (2013). A comparative study of the quality of urban life in the villages of integrated core design. *Urban Sociological Studies*, *7*(92), 192-167.
7. Hajinejad, A., Rafieian, M., & Zamani, H. (2011). Reviewing and ranking the factors affecting the citizens' satisfaction with the quality of the living environment. Case study: The old and the new Shiraz. *Journal of Human Geography*, *45*(77), 129-143.
8. Isan, Y., & Davis, Y. (2003). *Architecture and planning reconstruction* (A. R. Fallahi, Trans.). Tehran: Shahid Beheshti University Press.
9. Khorshidian, A. (2009). *Evaluating the performance of certain Islamic Revolution Housing Foundation headquarters in the reconstruction of earthquake-stricken rural areas of Lorestan after Earthquake of March 2005* (Unpublished master's thesis). Shahid Beheshti University, Tehran.
10. Mesgari Hoshyar, S. (2008). *Evaluation of the rural settlement of Ardabil province reconstruction after the earthquake in 1995* (Unpublishedaster's thesis). Shahid Beheshti University, Tehran.
11. Pahlevanzdeh, H., Rezvani, M. R., & Mohammadi Ostadklaye, A. (2012). Quality of life in the villages merged after natural disasters. *Housing and Rural Environment*, *38*(137), 97-112.
12. Rajabi, N. (2006). *The history and geography of the city Qaenat, empowerment and development strategies*. Tehran: Shahrashoob Publication.
13. Rezvani, M. R., Shakiba, A. R., & Mansooryan, H. (2009). Quality of life in rural areas. *Social Welfare Quarterly*, *30*(31). 35-60.
14. Saidi, A., & Husseini Hasel, S. (2009). *Basis of location and the establishment of new villages*. Tehran: Shahidi Publications.
15. Taqvaei, A., & Nikoparast, S. (2009). Crisis management in cities. *Procceding of the First National Conference on Earthquake Crisis in historical context*, 24 June 2009, Yazd: Yazd University.
16. Vosughi Hamzekhanlu, J. (2010). *The consequences of social, economic and spatial strategies for resettlement of villagers after the earthquake, case study: Village Abgarm, the city of Ardabil* (Unpublished master's thesis). Sistan and Baluchestan University, Zahedan.

References (in English)

1. Baba, Y., & Austin, D. M. (1989). Neighborhood environmental satisfaction, victimization, and social participation as determinants of perceived neighborhood safety. *Environment and Behaviour*, 21(6), 763-780.

2. Baycan Levent, T., & Nijkamp, P. (2006). Quality of urban life a taxonomic perspective. *Journal of Studies in Regional Science*, *36*(2), 1-5.
3. Epley, D., & Menon, M. (2008). A method of assembling cross-sectional indicators into a community quality of life. *Social Indicators Research*, *88*(2), 281-296.
4. Ge, J., & Hokao, K. (2006). Research on residential lifestyles in Japanese cities from the viewpoints of residential preference, residential choice, and residential satisfaction. *Landscape and Urban Planning*, *78*(3), 165-178.
5. Hagerty, M. R., Cummins, R. A., Ferriss, A. L., Land, K., Michalos, A. C., Peterson, M., ... & Vogel, J. (2001). Quality of life indexes for national policy: Review and agenda for research. *Social Indicators Research*, *55*(1), 1-96.
6. Henderson, H., & Lickerman, J. (2000). *Calvert-Henderson quality of life indicators*. P. Flynn (Ed.). Bethesda, Maryland: Calvert Group.
7. Lansing, J. B., & Marans, R. (1969). Envaluation of neighborhood. *Journal of the American Institute of Planners, 3*(35), 195-199.
8. Littlewood, P. (1985). Social and political aspects of the south Italian earthquake of 1980. *Disaster, 9*(3), 206-212.
9. Lynda, L., & Diana, E. (2005). A Concept of quality of life. *Journal of Orthopedic Nursing, 9*(2), 12-18.
10. Mitchell, G., Namdeo, A., & Kay, D. (2000). A new disease-burden method for estimating the impact of outdoor air quality on human health. *Science of the Total Environment, 246*(2), 153-163.
11. Pacione, M. (2003). Urban environmental quality and human wellbeing a social geographical perspective. *Journal of Landscape and Urban Planning, 65*(2), 5-18.
12. Van Poll, R. (1997). *The perceived quality of the urban residential environment: A multi attribute evaluation* (Unpublished doctoral dissertation). Center for Energy and Environmental Studies (IVEM), University of Groningen (RuG), The Netherlands.