

Spatial Organization of Rural Settlements Attached to the Surrounding Areas of Mashhad Metropolitan City using the Structural-Functional Campaign Approach

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Extended Abstract

1. Introduction

The rapid expansion of urbanization during the past 50 years in Iran has led to spatial imbalance between urban and rural settlements. As the second largest metropolitan city of Iran, Mashhad has been witnessing population growth and physical expansion that has brought about several complex issues and challenges. A proper response to these problems requires development in planning. As a strategic approach to space organization at different levels and scales, the structural-functional campaign seeks to explain complicated aspects of spatial organization in less developed countries and find solutions to problems deeply rooted in structural and functional relations in these nations. Accordingly, this study is aimed at offering suitable executive mechanisms in line with spatial planning to improve the living and human-related conditions of rural settlements; this is achieved by examining their structural characteristics, focusing on their functional aspects, and conducting a better, more accurate identification of threats, opportunities, and issues present in integrated villages.

2. Theoretical Framework and Review of Literature

In developing countries with underdeveloped economies, problems related to spatial planning is of a different nature. Offering suitable responses to these problems requires expanding strategic and compatible planning capabilities and developing methods for planning. As a strategic approach to space organization at different levels and scales, the structural-functional campaign seeks to explain complicated aspects of spatial organization in less developed countries and find solutions to problems deeply rooted in structural and functional relations in these nations in the form of modern social geography. This approach is based upon the reality that there exists a type of close and unquestionable bond between the structural and functional components of all geographical phenomena including cities, villages, and regions.

A systematic outlook toward the city is taken into account in this study; however, given the particular complexities of conducting a structural-functional study of

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Mashhad and its suburbs, adopting a single scientific outlook would not be sufficient to address the quality and quantity of the issue at hand in various dimensions. Consequently, to offer a better explanation of the issues, the present views and comments related to the study such as structuralism and functionalism or any other helpful scientific views are taken into account.

Careful examinations of the related literature pointed to a comprehensive study by Taleshi and Amirfakhrian (2010). Results showed that in case suburban residence is not organized within urban settlements, it would lead to the collapse of small scale rural settlements around the city and gives rise to the unofficial residence phenomenon.

Hao, Sliuzas, and Geertman (2011) conducted a study. According to them, villages-cities is the rural immigrants' logical response to the circumstances of rapid economic growth and social developments. Tian, Qiao, and Gao (2014) carried out a study using an analytical-document method. Given the obtained land set data, authors concluded that urbanization in China has destroyed over 900,000 villages in this country during the past 30 years; rural population has consequently witnessed a 34.8% reduction. In addition, their findings demonstrated that the most important type of development in rural areas surrounding Chinese metropolitan cities, esp. Beijing, involves marginalized expansion.

3. Method

The present applied research was conducted using the descriptive-analytical method. Descriptive statistics such as mean value, standard deviation and variance were used to analyze the quantitative data. Total population of the study included the residents of both rural and urban settlements in north east of Mashhad. Urban settlements in this area belong to districts six and two of Mashhad municipality. Out of 10,639 urban residents, 371 households were selected as the sample population using Cochran's formula. The rural settlements are located within the territory of Toosrural district and parts of Tabadkan rural district; residents of the entire rural settlements in these areas were taken into account which constituted more than 20 households. Data collection was carried out using library and field studies (including questionnaires, interviews, and observations). Library studies involved examining statistics and information on villages in census reports and topographical maps. In field studies, three types of questionnaires for urban settlements (integrated regions) and rural settlements (both integrated and non-integrated regions) were employed. The first questionnaire used for urban settlements contained 39 questions; the other two questionnaires related to rural settlements were categorized into three groups including: questionnaire on functional relations and physical-spatial features, economic questionnaire, and social questionnaire, with a total of 120 multiple choice (6- the Likert Scale) questions. Questionnaires were distributed through systematic random sampling. To complete the required data, open-ended interviews were conducted. In this method, evaluation instruments and designed questions are flexible and does not follow a specific order. These interviews were mostly conducted with the elites, managers, and local reliable figures in both urban and rural settlements. To examine the validity of the household questionnaire, the views of experts in a

variety of fields were taken into consideration which included geography and rural planning, geography and urban planning, rural development, and sociology. To examine the reliability of the research questionnaires, these instruments were placed under initial tests at the regions of the study following completion; next, data were inserted into the SPSS software and then finalized. Cronbach's alpha for each indicator was obtained as 0.95 which suggests the suitable reliability of the applied research instruments.

4. Results and Discussion

Examination of the results obtained from data analysis and field interpretations showed that the majority of rural areas attached to Mashhad and integrated with the city have, in fact, created a type of undesirable accommodation circumstances; meanwhile, the residents of these integrated villages believe that they now live in an urban setting. Consequently, they expect to be provided with urban services and facilities which has created numerous problems for municipalities and urban authorities. The villages are also at an undesirable state in terms of physical aspects and location. By becoming attached to the city over time, many of these rural areas were considered to be within the legal urban zone while many others fell outside of it; and if a proper solution is not found for such inharmonious and uncontrolled urban growth, those villages will gradually become part of the city as well. Moreover, statistical analyses show that the majority of disadvantages caused by the integration of rural settlements incities relate to sociocultural dimensions. On the other hand, most of the benefits brought about by integration are through the outlook of functional relations and physical features. The results of this study suggest that the surrounding rural settlements are, overall, at an undesirable statewhile the inharmonious growth of Mashhad metropolitan city leads to the gradualintegration of the surrounding rural settlements. Consequences of such a situation include the span and diversity of relations, lack of spatial-functional integration in villages and cities, negligence over separating borders between rural and urban settlements, and the transformation of rural areas into rural-urban regions.

5. Conclusion

Findings suggest that such a rapid growth has resulted in the unregulated expansion of Mashhad metropolitan city and integration of the surrounding rural settlements along with the transformation of a considerable area of fertile lands into areas used for urban applications and services. Unquestionably, this can bring about irreversible damages to urban sustainability. As a result, it is necessary to provide the means for all-inclusive development and achieving higher sustainability levels across surrounding settlements by making use of physical, social, and economic studies, paying attention to developmental infrastructures and facilities in these regions, adopting modern planning approaches, offering suitable contexts, improving physical structures, and providing social equity.

Keywords: Spatial Planning, Structural-Functional Campaign, Rural Settlements, Socioeconomic Performance, Northern Mashhad

References (In Persian)

1. Arefzadeh, M. (1998). روند توسعه شهر مشهد و اثرات آن بر اکولوژی شهر [The development process of Mashhad and its effects on the ecology of the city] (Unpublished doctoral dissertation). Tehran University, Tehran, Iran.
2. Ghamami, M. (1993). طرح جامع مشهد [Comprehensive plan of Mashhad]. *Abadi*, 3(9), 23-41.
3. Islamic Revolution Housing Foundation. (1999). مطالعه طرح الگوی طرح ریزی کالبدی در روستاهای حریم شهرها [Exploring physical planning of model design in villages around cities]. Tehran, Iran: Islamic Revolution Housing Foundation.
4. Laleh, A. (2011). روابط و پیوندهای روستایی - شهری در ایران [The rural-urban relationships and bonds in Iran]. Tehran, Iran: Mehr Minou.
5. Municipalities and Village Administrators Organization. (2008). دانشنامه مدیریت شهری و روستایی [Encyclopedia of urban and rural management]. Tehran, Iran:
6. Negahban Marvi, M. (2002). شهرهای جدید و نقش آنها در تمرکززدایی از مادرشهرها (نمونه موردی: شهر جدید گلپهزار) [New cities and their role in decentralization of metropolitans (Case study: Golbahar)], (Unpublished master's thesis). Sistan and Baluchestan University, Iran.
7. Rahnama, M. R., & Abbaszadeh, Gh. (2007). اصول، مبانی و مدل‌های سنجش فرم کالبدی شهر [Principles, foundations and models of assessing the physical form of city]. Mashhad, Iran: Jahad Daneshgahi.
8. Rezvani, M. (2005). گردشگری خانه‌های دوم و اثرات آن بر نواحی روستایی. مورد: نواحی روستایی شمال تهران [Tourism of second homes and its effects on rural areas; Case study: Rural areas of north of Tehran]. *Journal of Geographical Studies*, 54(2), 109-122.
9. Saeedi, A. (1998). مبانی جغرافیای روستایی [Basics of rural geography]. Tehran, Iran: SAMT.
10. Saeedi, A. (2011). پویای ساختاری-کارکردی رویکردی نظام‌وار در مطالعات مکانی-فضایی [Structural-functional dynamism of a systematic approach in spatial studies]. *Geography*, 29(3), 1-18.
11. Saeedi, A. (2011). پویای ساختاری-کارکردی رویکردی نظام‌وار در مطالعات مکانی-فضایی [Structural-functional dynamism: An alternative approach to spatial planning]. *Journal of Space Economy and Rural Development*, 29(3), 1-18.
12. Saeedi, A., Mohebbi, A., & Jandaghian Bigdeli, S. (2015). واریاسی پویای ساختاری - کارکردی در مطالعات منطقه‌ای [Exploring the structural-functional dynamics in regional studies: A comparative study of Aran-Bidgol and Raz-Jargalan Areas]. *Geography*, 13(44), 7-23.

13. Shayan, H., & Hadizadeh Bazzaz, M. (2010). تحلیلی بر ضرورت ساماندهی روستاهای حریم کلان شهرها با تأکید بر کلان-شهر مشهد [An analysis of the necessity of organizing villages around metropolitans with an emphasis on Mashhad metropolis]. Paper presented at *1st National Conference on Geography and Rural Development Planning*. Tehran, Iran.
14. Statistical Center of Iran. (2011). نتایج عمومی سرشماری ۱۳۹۰ استان خراسان [General results of 2011 census of Khorasan province]. Tehran, Iran: Statistical Center of Iran.
15. Statistical Center of Iran. (2013). آمار نامه شهرداری مشهد [Statistics letter of Mashhad Municipality]. Tehran, Iran: Statistical Center of Iran.
16. Statistical Center of Iran. (2016). نتایج عمومی سرشماری ۱۳۹۵ استان خراسان [General results of 2016 census of Khorasan province]. Tehran, Iran: Statistical Center of Iran.
17. Taleshi, M., & Amirfakhrian, M. (2011). ناپایداری سکونتگاه‌های روستایی و آینده‌حاشیه نشینی در خراسان رضوی [Unsustainability of rural settlement and the future of squatter communities in Khorasan Razavi]. *Geography*, 9(29), 81-107.
18. Yari Hesar, A. (2013). هویت روستایی کلان شهر تهران [Rural identity of Tehran metropolitan]. Mashhad, Iran: Behnashr.

References (In English)

1. Abramson, M., & Kamensky, J. (2002). *Manging for Results 2002*. New York, NY: Rowman and Littlefield.
2. Anas, A., & Xu, R. (1999). Congestion, land use, and job dispersion: A general equilibrium model. *Journal of Urban Economics*, 45(3), 451-473.
3. Bulanda-Jansen, A. (2019, February). Evolution of the metropolitan area of Shenzhen; analysis: From theory to selected examples. In *IOP Conference Series: Materials Science and Engineering* (Vol. 471, p. 112058). Bristol, England: IOP.
4. Deng, X., Huang, J., Rozelle, S., & Uchida, E. (2008). Growth, population and industrialization, and urban land expansion of China. *Journal of Urban Economics*, 63(1), 96-115.
5. Doygun, H. (2005). Urban development in Adana, Turkey, and its environmental consequences. *International Journal of Environmental Studies*, 62(4), 391-401.
6. Garcia-López, M. À. (2010). Population suburbanization in Barcelona, 1991–2005: Is its spatial structure changing?. *Journal of Housing Economics*, 19(2), 119-132.
7. Gwiazdzinska-Goraj, M., & Ezierska-Thole, A. (2013). Functional Changes of the Rural Areas in Poland. Case Study: Warmińsko-Mazurskie Voivodeship. *Journal of settlements and Spatial Planning*, 4(1), 53-58.
8. Hao, P., Sliuzas, R., & Geertman, S. (2011). The development and redevelopment of urban villages in Shenzhen. *Habitat International*, 35(2), 214-224.

9. Tian, G., Qiao, Z., & Gao, X. (2014). Rural settlement land dynamic modes and policy implications in Beijing metropolitan region, China. *Habitat International*, 44, 237-246.

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