

Explaining the Relationship between Urban Distribution Patterns and Sustainable Development (A Case Study of Sari)

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Abstract

Rural migration, with the addition of new districts to the cities, causes the expansion of cities with the increasing expansion of the city. So it is necessary to study the reasons of its formation. The goal of this paper is to explain the spreading pattern of the Sari city and the process of physical development, investigating the pattern of city development and expansion, the impact of city expansion pattern on user distribution, the Impact of City Expansion Pattern on Spatial Distribution of Population and Services in Different areas. In order to study the subject, firstly, by analytical and descriptive methods, various environmental demographic, social and physical variables of the structure of districts of Sari city in different periods were investigated. To evaluate the pattern of development of the physical urban development and development in suburbs and villages adjacent to the city. Then, using Shannon and Helder, Entropy models, standardized score, Williamson, HDI, Pearson correlation coefficients and Spearman were evaluated and analyzed. To analyze the pattern of urban expansion from variables such as area of the city and city population and gross per capita gross and documented to the master plan of the city, In the form of Entropy and Helder and also using Williamson models, standardized scores, Combined human development index Pearson and Spearman correlation coefficients have been evaluated and analyzed by the influence of the spread pattern on the distribution.

Introduction

Rural migration, with the addition of new districts to the cities, causes the expansion of cities with the increasing expansion of the city, rural areas and population centers around the city add to its body and is in fact imposed on it.

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The growth and expansion of the city is seen as a reflection of the stages of rediscovery and social change within cities. The research question is: What is the pattern of urban development and how is the distribution of services and population based on the physical development model? The goal of this paper is to explain the spreading pattern of the Sari city and the impact of villages around the city on the intensity of expansion, Seeking to achieve the following goals: Investigating the process of physical development of the city, studying economic and social changes in the pattern of urban expansion , Investigating the pattern of city development and expansion, Investigating the impact of city expansion pattern on user distribution, Investigating the Impact of City Expansion Pattern on Spatial Distribution of Population and Services in Different Areas, Finally, the proper patterns of urban development and expansion . Urban sprawl growth over a period of time without a predetermined schedule has led to an inconsistent and heterogeneous growth, and the research hypothesis of the inappropriate distribution of services and facilities at the city level, uncontrolled construction on the margins of cities, and ... somehow Leading to the destruction of agricultural lands and gardens. And this has brought in irreparable damage to the city. Types of urban development pattern are categorized into three broad categories of urbanized cities, urban intelligent growth and urban dispersion. On the basis of the above theory, the pattern of urban development has been investigated

Materials and Methods

The research method is descriptive-analytic. Initially, information was gathered through documentation sources such as existing research, local initiatives and websites. Then the physical development of Sari city and the suburban impact in the intensity of the expansion of the city first, To analyze the pattern of urban expansion and its factors affecting the variables such as area and city, population and gross per capita gross and gross in terms of entropy and Helder models, and also the effect of the spread pattern on the distribution of utilities and urban services using the Williamson models , Standardized score, combined human development index, Pearson and Spearman correlation coefficients (Hikmat Nia and Mousavi, 2006: 129) have been .

Results and Discussion

In 2015 the population of Sari city in 1965 was 26278 people in 2015 equivalent to 309,000. The area of the city was 135 hectares in 1965 and increased to 4208 hectares in 2015. This trend is unlikely to be that the population of the city has increased by 35 times between 60 years and the city has grown by 75/11. The area of the city has been 2690 and 4208 hectares in 1956 and 2015 (Mazandaran Road and Urban Development Office, 2016). The output of the Shannon entropy model data is obtained by analyzing these two periods of 155/3 and 230/2. The magnitude of the

entropy's magnitude is indicative of the dispersed growth of urban physical development. According to the data of the Helder model, 85 percent of the city's growth from 1956 to 2015 was related to population growth and the remaining 15 percent was related to horizontal growth. According to the Williamson index, the distribution of usage in different areas of Sari is uneven and these uses have not been reasonably distributed throughout the city. The correlation coefficient between Pearson and Spearman is 0.18, which indicates a weak correlation between population distribution and distribution.

Conclusion

The decentralization of the procurement The results of the study of the evolution of the trend of the expansion of the city of Sari indicate that it is due to socioeconomic changes (population and migration) and physical (city shape and pattern of use) in the spatial structure of the city and data analysis based on entropy, Williamson, Standardized, and HDI models reflects the dispersed growth of the city and the uneven distribution of applications at the level of urban areas. These data indicate that there is a disorder in the urban structure in the central and urban areas. As a result, the development of the city on the suburban was linear specially, in the north and south axis and in the vicinity of the villages connected to the city, in addition to the city's legal areas. In order to get out of this deadlock, suggestions for optimal growth and development of the city are presented below: Attention to the multifaceted development of the city, special attention to the conventional and cultural and social aspects, the desired density pattern and the encouragement of altitude for construction by providing appropriate services, strict control over non-planned construction, the establishment of coordination between the executive agencies of services Monitoring, controlling and controlling more of the government on the city, supporting massive projects and preparation projects, rational guidance of the villages surrounding the annexed city.

Keywords: urban development, expansion of city, Sustainable Development, Urban Distribution, urban textures, Sari City

References

1. Anderson, W. P., Kanaroglou, P. S., & Miller, E. J. (1996). Urban form, energy and the environment: a review of issues, evidence and policy. *Urban Studies*.
2. Ebrahimzadeh, I. (2009). An Analysis on Spatial Spreading Pattern in Marvdasht City Using Shannon Entropy Models and Hellenne and presenting a pattern for its future desirable expansion. *Human Geography Researches* No. 69, Autumn. (in Persian)

3. Maskan Sazan Corporation of Mazandaran (Urban Development and Improvement Organization of Iran. (2012). Empowerment of informal informatics platforms of Sari, Consultant Engineers of Tarh Mohit Paydar. (in Persian)
4. Rafiee, G. (2008). Investigation and analysis of trend and pattern of spatial development of Marvdasht city and optimal Selection, directions for its future development using GIS, Master's Thesis for Geography and Planning Urban. University of Sistan Baluchestan.(in Persian).
5. Shalin, C. (1993). Urban Dynamics or City Dynamics, Asghar Nazarian. Publisher: Astan Quds .(in Persian).
6. Taghvaei, M & Sarai, M.H. (2006). Horizontally extending the city and the existing capacities of the earth (case study of Yazd city). Quarterly journal of geographic research. No. 55.(in Persian)