

Research Paper

Investigating and Analyzing Effective Factors on the Physical Landscape Change of Villages in Metropolitan Areas (Case Study: Northern villages of Mashhad Metropolitan)

Soodabeh Ahmadi¹, Tahereh Sadeghloo², Hamid Shayan³

1. Graduate Student of Geography and Rural Planning, Department of Geography, Literature and Human Science Faculty, Ferdowsi University of Mashhad, Mashhad, Iran.
2. Assistant Professor, Department of Geography, Literature and Human Science Faculty, Ferdowsi University of Mashhad, Mashhad, Iran.
3. Professor, Department of Geography, Literature and Human Science Faculty, Ferdowsi University of Mashhad, Mashhad, Iran.



Citation: Ahmadi, S., Sadeghloo, T., & Shayan, H. (2020). [Investigating and Analyzing Effective Factors on the Physical Landscape Change of Villages in Metropolitan Areas (Case Study: Northern villages of Mashhad Metropolitan) (Persian)]. *Journal of Rural Research*, 10(4), 684-697, <http://dx.doi.org/10.22059/jrur.2019.275886.1330>

doi: <http://dx.doi.org/10.22059/jrur.2019.275886.1330>

Received: 11 Feb. 2019
Accepted: 09 June 2019

ABSTRACT

Investigation and studying the villages and their physical and visual developments illustrates the involvement of various factors that are sometimes at the discretion of the villagers and others. These factors target the villages in different ways. Landscape change is one of these factors. The purpose of this study was to identify the most important factors affecting the physical landscape change in the suburbs of *Mashhad* metropolis. The research method is a descriptive-analytical and applied one. The statistical population of the study consisted of 13 villages located 5 km north of *Mashhad* which were determined by GIS software and based on study and sample size. The research tool is a researcher-made questionnaire that includes two groups of internal and external factors as independent variables of research and the indicators of landscape variables as dependent variables. The results of the questionnaire analysis among 228 inhabitants of the study villages show that the landscape and physical landscape changes in most of the studied villages were above average and the most landscape changes were found in Rural Face Change Index. According to the results of Pearson correlation, it was found that there is a significant and direct relationship between internal and external factors with 0.482 and 0.555, respectively. The results of the structural model showed that the variables of national and transnational forces externally with the coefficient of 0.312 had the greatest impact on the change of physical landscape.

Key words:

Lifestyle, Landscape, Metropolitan Impact, Internal and External Factors, Physical Changes

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Extended Abstract

1. Introduction

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he development and expansion of human settlements in the light of political, economic and social developments has

been accompanied by the physical transformation of the spatial organization and the functional structure of such centers, especially rural centers. The objective evidence indicates the greatest degree of physical and functional changes in rural settlements, especially villages located in the immediate vicinity of metropolitan areas. Since metropolitans have strong relationships with the peripheral

* Corresponding Author:

Tahereh Sadeghloo, PhD

Address: Office Number 35, Literature and Human Science Faculty, Department of Geography, Ferdowsi University of Mashhad, Iran.

Tel: +98 (919) 6261569

E-mail: tsadeghloo@um.ac.ir

areas, especially the villages in the domain of influence in order to have many functions, it makes a profound effects on their economic, social, cultural and physical aspects. But one of the most important effects of such developments is a landscape change in rural areas. The rural landscape is an important part of the geographical organization of the geographical area. Sights such as natural, cultural and economic are not only affected by forces and factors outside the village, but also by the internal forces that affect them, which makes them shape and change.

2. Methodology

The research method is a descriptive-analytical and applied one. The purpose of the present study was to identify the most important factors affecting the physical aspect of villages in *Mashhad* metropolitan areas. The statistical population of the study consisted of 13 villages located 5 km from the northern margin of *Mashhad*. These 13 villages were randomly selected through GIS software and were the basis to study and determine the sample size. The study of the statistical unit in this research is rural households. The research tool is a researcher-made questionnaire that consists of two groups of internal and external factors as an independent variable of the study and indicators of landscape variable as dependent variable. The central part of the city of *Mashhad* has 6 districts with the focus of *Mashhad* Metropolitan. This section is in close proximity to the *Mashhad* religious metropolis and has a special political significance.

3. Results

Today, the unprecedented landscape changes in the countryside are one of the most important issues and issues facing designers, environmental psychologists, architects, sociologists and planners. The factors that play a crucial role in changing the landscape of villages are internal, external factors, lifestyle and their effects. The purpose of this study was to identify the most important factors affecting the physical outlook of villages in the metropolitan area of *Mashhad*. In response to the question of the present research and according to the results of Pearson and Spearman correlations, it was found a meaningful and direct correlation between internal factors with landscape change (0.482) and external factors with a landscape change (0.551). This means that increasing the internal and external factors will change the landscape and physical outlook in the studied villages. In the first stage, the results of villager's show that the change of internal and external factors with landscape indicators and physical outlook have a positive relationship with moderate intensity. After fixing a meaningful relationship, the

coefficient of determination is used. The coefficient of determination of landscape change and physical outlook is 0.549, which indicates that 54.9% of changes in landscape and physical outlook (dependent variable) are affected by internal and external factors and lifestyle changes, and the rest are factors that are considered in the model not taken.

4. Discussion

Meaningful paths between hidden variables are statistically calculated and evaluated by t values as the test statistic. The results show that the value of t in all factors is greater than 1.96, which indicates the significance of each effect. The factors of inner, outer and lifestyle are based on changing the landscape and physical outlook of the studied villages. The results of the studies showed that the internal and external factors are effective in landscape and landscape changes. Therefore, independent variables in the form of 16 indicators and dependent variables with 18 indicators in this study were introduced and studied. The results of the comparison of the external, internal and lifestyle factors in the studied villages show that these factors have the most effect on the landscape change in the villages of Gezi. The results of the structural model show that the internal and external factors, the variable of national and transnational forces with a coefficient of 0.312 have a direct and significant effect on the change of landscape and physical outlook.

5. Conclusion

In this study, the internal and external factors and lifestyle changes affecting landscape change were investigated and the results showed that with the help of [Danaee Nia and Eilbeygipour \(2018\)](#), the factors such as religion, climate, materials and technology, and resources in access have been effective on landscape change. These indicators are consistent with indicators of the internal factors affecting the landscape change of the villages in the study. [Khodadad \(2011\)](#) also explains that the climate and the use of indigenous construction materials and organic structures (non-organic and natural) on the characteristics of the landscape architecture of the neighborhood have had a great influence. In the present study, the role of climate, indigenous and non-indigenous building materials in landscape change is also examined. It is hoped that the planning and policies related to rural development will focus on the metropolitan areas and create an appropriate environment to preserve and revitalize the landscape.

Acknowledgments

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of Interest

The authors declared no conflicts of interest