

Analysis of Spatial Interactions of Urban and Rural Areas with an Emphasis on Rural Development (Case Study: Western Azarbaijan Province)

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Extended Abstract

1. INTRODUCTION

The center or core of each activity is characterized by certain capacities and strengths, which are distributed in inverse proportion to the distance. In other words, the intensity of the impact is lessened with an increase in the distance. Thus, the closer are the surrounding villages, the greater will be their role and contribution to the rural development. Of course, the extent of such an influence depends on a number of other factors including the size of cities. The spatial distribution of the population and life centers in the urban systems of Iran indicates a significant difference between the big and small cities in terms of quantity and quality, function and regional sphere of influence.

According to the above points, this paper seeks to study the development of villages in the outskirts of cities in terms of the geographic distance of these settlements from cities and the functional impact of the size of cities on their surrounding areas. The main aim of this study is to investigate the development of villages in a 5, 10 and 15-km radius of city centers with respect to the size of cities.

2. THEORETICAL FRAMEWORK

In general, it is believed that the extent and nature of urban-rural interaction is different from migration patterns, diversity of revenues derived from rural and urban market and also historical, political, social, economic and environmental factors. The research framework is built upon the following assumptions:

- The proximity of a village to cities is the necessary causal condition for rural development.

- The greater is the degree of membership of a village in the outskirts of cities, the greater will be the degree of its membership in the highly developed villages
- The size of a city is the necessary causal condition for the development of its surrounding villages
- The greater is the degree of membership of a village in the cluster of villages in the outskirts of crowded cities, the greater will be their degree of membership in the cluster of highly developed villages.

3. METHODOLOGY

This is a comparative study in which a fuzzy approach has been adopted. According to the fuzzy logic, for each of the concepts in the theoretical set, a fuzzy membership function is defined and in the evaluation phase, based on the fuzzy membership, a fuzzy causal analysis is performed. In this paper, the unit of analysis is comprised of villages in a 5, 10 and 15-km radius of city centers in the West Azerbaijan Divisions - which is based on the national administrative and political division in the year 2011. To determine the development of rural areas, 79 measures (Table 2) and TOPSIS model of analysis were used. For the fuzzy processing and analysis of the data related to the rural-urban distance and the size and development of cities, Excel, SPSS and fs/QC software were utilized.

4. RESULTS AND DISCUSSION

Cities and villages are two geographical phenomena with entangled structural and functional developments, which are a variable of their relative functional position.

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With the growth of functional status and size of cities, the scope of their economic and social opportunities is expanded to wider areas, affecting even remote peripheral areas.

According to the results of the present study, a consistency index of 0.836 was obtained between the rural-urban distance and rural development. Moreover, in 84% of the villages under study, it was concluded that distance from the city was the necessary condition for rural development. Accordingly, it can be argued at 95% confidence level, the rural-urban distance is the "absolute necessary" condition for rural development. Also, a coverage index of 0.63 was achieved between the two areas. The evidences suggest that 63% of the rural development can be explained in terms of rural-urban distance.

The results of the fuzzy regression model indicate a fuzzy relationship of 0.582 between rural development and causal condition of urban-rural distance. Also R² value reveals a shared variance of 0.338 between rural-urban distance and rural development, indicating that most of linguistic variables are external to the cluster with the urban-rural distance being mainly considered as a non-member in the causal condition of the cluster.

The measurement of the necessary casual condition of the city size for the development of marginal

villages suggests that city size is always the "absolute necessary" condition for rural development as a consistency index of 0.77 was achieved for the two clusters. Accordingly, it can be argued that such a relationship can be established at 95% confidence level. Moreover, a coverage index of 0.73 demonstrated that 73% of rural development could be explained by the city size. Therefore, the causal condition of city size explained 73% of the total membership. According to the above points, the problem can be resolved with some of the following strategies:

5. CONCLUSION

The concentration of population, facilities, services and various functions in city centers or metropolitans has motivated the population living in the outskirts of cities to migrate to urban areas for the fulfillment of their needs. This contributes to the advantage, centrality, power and dominance of centers, thereby facilitating the development of villages in the proximity of cities and thwarting the progress of rural areas far from cities.

Key words: rural development, size of a city, rural-urban distance, Western Azerbaijan.

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