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Assessing the role of small towns in the development of the surrounding population centers using network analysis

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Introduction

One of the effects of the accelerated urbanization process on the spatial and demographic structure of the country is the increasing number of cities, through the transformation of rural centers into small cities. Over the past few decades, several strategies have been proposed for rural development. One of these strategies, which has a spatial approach, is the strategy of creating and strengthening small towns and village-towns. In general, the role of cities in rural development is realized through rural-urban links and relations. New development paradigms take into account networks and flows, because flows and connections between rural and urban areas are important. Some rural-urban flows and connections can be favorable for each area, but it should be noted that net benefits can flow in different ways and therefore change from place to place over time. Lynch, 2005: 5). Less attention has been paid to rural development, while rural development plays a key role in urban development and regional economic growth (Long & Zou & Liu, 2009: 454). Today, with extensive socio-economic and technological developments, including in the field of transportation and communication routes, urban-rural relations have become very extensive and diverse. These relationships manifest themselves in the form of population flows, goods, ideas, capital, information and innovation. For this reason, many developments and changes in cities and villages are due to the quality of relations between them. Therefore, it is necessary to consider rural-urban relations in the planning process (Clayton et al, 2003: 186). As a result, analysts of urban and regional issues have turned their attention to the development of small and medium-sized cities as a necessary solution to deal with the imbalance caused by the first development of cities. As long as growth is limited to a few large cities, there will be a greater tendency to intensify and prolong the growth trend in these centers, and smaller urban centers will have a gradual transition process and less growth. Small cities, by accepting a significant share of factors of production, investment and manpower and population of the country, at intervals commensurate with the size of the land, act as weights away from the center of gravity and gravity and are able to stabilize the set of factors necessary for prosperity. Regions become lands (Amkchi, 2004: 100-160).

Materials & Methods

The research method is descriptive (non-experimental) based on the applied purpose and based on data collection. The method of collecting information and data is library and

field method (based on a questionnaire), therefore, a questionnaire has been prepared for each of the rural villages in the two periods before and after the urbanization of the honorable city. Network analysis method has been used to study the relationships and flows in the two sections and to achieve the research objectives. In this method, a two-way relationship (1-0), meaning the existence or non-existence of a relationship between two factors or two settlements in a residential complex, is considered. In order to study the currents and relations between Arjmand city and its surrounding villages in 2 time periods before and after urbanization, the functions that have been most used in rural and regional areas have been used. For this purpose, 7 functions: 1) health and Affiliated centers 2) Educational-Cultural-Social 3) Communication-Telecommunication-Information Technology 4) Agriculture-Animal Husbandry 5) Service-Commercial 6) Administrative-Political 7) Service-Infrastructure in the form of 49 variables that have been most efficient in the region, Has been evaluated.

Social network analysis method is one of the methods of analysis and review of the current situation and presentation of development document for the study area. Statistical models based on network analysis have been used by researchers for almost 60 years. The purpose of these models is a quantitative experiment of the properties of social relations between the agents of a particular network. Social network analysis can be considered as a generalization of analytical techniques of practical statistical data, this method usually relies on the observations of units and their characteristics. A social network analysis should also consider the data on a unit-by-paragraph basis. The basis of network analysis is based on an analytical data framework that depends on information or hypotheses. These data can include, for example, data on family relationships, people-to-people interactions, or personal and group attitudes. The main and key factor can be identified based on the flows and dependencies that exist between the elements of a set. For this purpose, first, the basic factors or flows that exist at the level of a society should be identified and among them, the factors that are more important should be selected and the flows and dependencies between them should be arranged in the form of a matrix of numbers in a package (number 1 indicates The relationship between the elements of a set and the number 0 indicates zero dependence. The fewer the numbers obtained within a matrix row (outer degree) and the higher within a column (inner degree), the greater the association between the others. The members have with this member and vice versa, the more the sum of the numbers in a row and less in a column, the stronger the dependence of this element with the other members. In network analysis, there are two basic relationships: a) Evaluated relationship (1-0) The existence or non-existence of a relationship between two factors or a settlement in a residential complex, and the value relationship in addition to the existence or non-existence of the relationship and its intensity and frequency Note. B) Direct and indirect relationship: A direct relationship has a clear origin and end. An indirect relation to the origin of the flow is not clear. An indirect relationship is usually presented with an arc. A line between the factors involved that the arrow does not indicate. Usually an arc shows a direct relationship that is a line between the factors and the arrow at the end. For example, if village a sends students to village b, the direction of the education relationship is from a to b, which reflects the educational dependence of a on b.

Discussion of Results & Conclusions

Several strategies have been proposed for rural development. One of these strategies, which has a spatial approach, is the strategy of creating and strengthening small towns and rural-cities. In general, the role of cities in rural development is realized through rural-urban links and relations. In this article, in order to investigate the role and performance of Arjumand city in the development of surrounding villages, using network analysis method, the currents and relations in Ghazganchai rural area were analyzed in two time periods before and after the urbanization of Arjumand city. The results of studies show that the transformation of Arjmand city into an urban point has had a favorable effect on providing services to rural areas of Ghazganchay district. Because before the city of Arjmand became a city, all rural areas of the study village, including the city of Arjmand, to provide the services they needed, referred to the city of Firoozkooh, which is located 15 km from this city and depended on this city, but with the city and the establishment of services And the facilities in Arjmand city have been significantly reduced due to the number of visits and dependence of rural areas on Firoozkooh city. Thus, by becoming an urban point, Arjmand city has been able to play a key role as a small city (central location) in providing services to the surrounding rural areas, which in turn has reduced the number of visits to these centers in the city center. Also, the study and comparison of the density of flows and relations in the rural area shows that this rate is 24.12% before the urbanization of Arjumand city and 46.23% after the urbanization of Arjumand city, which shows the greater relationship between rural settlements in the section. Is the second. Therefore, it can be concluded that the honorable small town as a central place can establish the most relations with rural settlements in its area of influence and by strengthening the settlement hierarchy system, play an important role as a catalyst for regional development and rural development. And prevent migration to larger cities.

Keywords: population center, rural development, honorable city, small towns, urban villages



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