On the Analysis of Urban Hierarchy and Balancing the Spatial Distribution of Urban Centers Population in Guilan Province

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Extended Abstract
Introduction

The population of cities is widely distributed among different settlements with different sizes and patterns in different regions. These completely different patterns more clearly illustrate the areas where the growth of cities occurs unplanned and with unequal policies. In this process, usually, the largest cities have the fastest growth rates, which will result in the city's demographic, economic, social and political mastery of one city on all other cities within the urban system of a country or region. The growing trend of urbanization in recent decades, along with the severe migration of the village - city, has accompanied by economic, social and political developments is one of the most important factors in creating the unbalanced model of the urban system of Guilan province. The tendency towards urbanization in Guilan province follows the process of governing the whole country and it always has an ascending trend during the recent decades so that in the year 1966, only 24.9% of the province population was inhabited in cities. However, according to the results of the census in 2006, 53.9% of the province population was inhabited in urban areas. Now, it seems currently having 51 cities, Guilan province to be witness as well as increasing the share of urban population over the next decades. Among the cities of Guilan, Rasht city has attracted the population of the surrounding areas to the city as the center of province or regional metropolis. In fact, Rasht city acts as a dominant city in Guilan region. Based on this matter, since the aim of any regional planning is to achieve balanced development, the present study intends to use a stratified difference model, urban primary model and four city index to analyze the hierarchy of Guilan province cities, based on population statistics of 1966-2016. So, the results of this study can be the basis for decisions making and presenting strategies and plans for balancing the distribution of urban centers population in Guilan province.

Methodology

Considering the topic of research and definition of urban hierarchy, the research methodology in this paper is quantitative - analytical study. In order to determine the urban hierarchy based on population variability, different models such as stratified difference solution model, the rank-size rule, Lorenz curve, Gini density coefficient, primate city pattern and four city model can be used. In this study, by referring to the results of population censuses conducted during the years 1966-2016, the required statistics were extracted and then analyzed using the models of Stratified

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Resolution Model, and four city index, the urban hierarchy of Guilan province has been analyzed. Due to the fact that maps, charts and tables have been used in some parts of this research, Excel and GIS software were used to edit them.

Result and Discussion

Investigating the process of population settlement developments in the province indicates decreasing and increasing in the share of rural population and also, in the proportion of urban population to the total population of the province, respectively. To clarify this issue, changes in total population, urban population and rural population of the province were investigated during a 30 year period of 1976-2016. The urban population of Guilan province was 461 thousand persons in 1976 which reached to 784 thousand persons in 1986 with average annual growth rate 4.5%. During the years 1986-1996 with average annual growth rate 3% the rate increased to 1050 persons and in 2006, the rate increased to1296 persons which represents an annual growth 2.1. In total, the urban population growth in the province during a 30 year period of 1976-2016 occurred with growth rate 3.5%.

Studying the urban hierarchy of Guilan province during the years 1976-2011, it was determined that Rasht city as the center of Guilan province and metropolitan area with 42.41% of the urban population of the province has shown its dominant role in the form of the "primate city" and now, all of the indexes including: geographical, social, economic, political, cultural, etc. are to the benefits of this city and to the detriment of its small biological centers. In addition, population concentration has led to many social and cultural problems, such as housing problems, high price of land, the cost of renting a home, traffic congestion, service failures and, finally, a wide range of environmental pollution. Due to its suitable political, economic and cultural backgrounds, this city has attracted various migrants from its surrounding areas and has removed the urban hierarchy of the province from the rank-size rule. In such a way that in 1976, the population of the first city (Rasht) was 3.41 times the second city (Anzali). In 2016, the population of Rasht city was 5.73 times the second city (Anzali). Given the changes in population and the ranking of cities in the province in recent years and its effects on the unbalanced system of urban centers development, centralization and single city dominance in the urban system of the province are necessary to take measures to organize the spatial urban centers and the balanced geographical distribution of the population in proportion to the facilities and the relative limitations and relative advantages of each region, and according to the land-planning policies and the development of spatial development of its urban centers. Centralization of the city and region of Rasht and paying attention to the small and medium cities of the province are the most important approaches of this research.

Conclusion

The study of the urban hierarchy of Guilan province indicates that most of the cities of this province enjoyed population growth during the years 1976 to 2016. In this regard, Rasht city has attracted immigrants to the city due to political, economic and cultural backgrounds and has removed the urban hierarchy of the province from balanced distribution (the rank-size). However, in general, the urban hierarchy of Guilan is unbalanced in the urban system of the province. In recent decades despite the growth of Anzali, Lahijan and Langrood cities as the middle cities of the province, due to the concentration of capital and the density of resources and facilities in the center of the province, the urban network of the province has been guided to centralized and single-city domination, and the significant quantitative and qualitative and functional difference between Rasht city and the small and medium cities of the province has been appeared more than ever. So, the urban hierarchy of the province has tended more toward imbalance.

Therefore, it is only possible to create an optimal spatial hierarchy in the province by providing a mechanism for creating equal opportunity for all the cities of the province and providing services to them. Otherwise, it is feared that in the future, cause the overgrowth of Rasht city

and cause a greater fracture of the urban system and the urban network of the province. Considering the issues raised to balance the urban network of the province, it is necessary to take benefit of a set of methods, such as decentralization strategy, the effective management of the province center, development and expansion of medium and small cities and village-cities, distribution and re-distribution of economic and industrial activities and rural development and planning, and to study the problem and adaptation of these methods at the regional and provincial levels.

Keywords: Urban System, Spatial Distribution of Population, Urban Hierarchy, Population

Balancing, Guilan Province