Spatial Analysis of Khorasan Urban Network (1956-2011)

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1. INTRODUCTION
Up to the beginning of this century, Iran had a relatively balanced urban network but with the rule of political economy of oil and land reforms (1962 to 1972), huge rural -urban migration was instigated, leading to instability and heterogeneity of Iran's urban network. The creation of large population centers that absorb most of services, productions and infrastructures in some parts of Iran has led to the attraction of new population, exacerbation of the distance between these centers and their surroundings and intensification of unevenness trend.

Khorasan province, which constitutes about 14.6 percent of the total area and 10.01 percent of the total population of the country, is faced with nonequivalence and heterogeneity like other urban network of the country so that Mashhad (the largest city in this province) contains about 53.6 percent of the total urban population and 36.54 percent of the total population in Khorasan province.

This research tends to study the changes of Khorasan's urban network in the period between 1956 and 2011 census, explaining the factors affecting these changes. Also, it seeks to study the correlation between the various results obtained from common indicators in Khorasan’s urban network.

2. METHODOLOGY
Adopting a descriptive – analytical approach, this paper uses document analysis and library methods for data gathering. In this research, 11 indicators in form of three groups of the primate city, concentration and equivalence, as well as Christaller's central place theory and the diffusion pattern of urban settlements (the nearest neighborhood technique) have been used for data analysis.

3. DISCUSSION
The study of 11 indicators in Khorasan urban network indicates that nonequivalence in Khorasan urban system was rampant in all censuses. Nevertheless, this nonequivalent peaked in 1986 census.

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The study of indicators in Khorasan urban network indicates that the results are not consistent. That is, while some indicators show that the spatial distribution of population in urban network is becoming more equivalent, others show a tendency toward nonequivalence.

The use of diffusion pattern of urban settlements (the nearest neighborhood technique) showed that the distribution of cities in Khorasan province was accidental (without previous planning) and cities had been distributed uneventfully in form of clusters.

The use of modified Cristaller's model in Khorasan urban network showed that only cities in the fourth class (the second, third and fourth cities in the area) had insufficient population whereas other cities faced a surplus of population.

5. CONCLUSIONS & SUGGESTIONS

Although the indicators showed a different trend for Khorasan urban network, they all confirmed the existence of the primate city, concentration and nonequivalence in the urban network of Khorasan province. It should be noted that these indicators demonstrate that the trend of change in recent years is moving toward equivalence.

Land reforms, the rise of revenues gained by selling oil in 1976s, investment in urban areas, Islamic Revolution and enormous advantages given to the low-income and the disadvantaged in the first years of Islamic Revolution led to rural-urban migration especially to cities like Mashhad. Developments in Afghanistan and the changes of its political system, which was accompanied with the entry of Soviet troops into this country, provoked the invasion of groups of migrants to the northeastern border of Iran. Internal migration, which was mainly sparked by the existence of facilities and job opportunities as well as religious beliefs and the eight-year war of Iran and Iraq that fueled internal migration from west to the east of country are the factors contributing to nonequivalence of the Khorasan province.

According to the results, the following strategic recommendations can be suggested for the urban network of Khorasan province:

1. Implementing the policy of continuous decentralization and enforcing the obligation to respect regional planning plans in decisions makings and measures in all cities of the region;
2. Implementing decentralization policy in the center of region and the strengthening medium-sized cities especially Sabzevar, Neyshabur, Bojnord and Birjand;
3. Empowering small cities with a view toward rural space management to direct the rural-urban migrations to these cities, prevent the huge migrations stimulated by agriculture development and investing plans on rural infrastructures, identify required services in rural communities and design the system of servicing based on networks;
4- Strengthening and improving transport communications and providing access to the medium-sized and small cities in the region.

**Keywords:** Spatial analysis, Urban network, Primate city, Khorasan province

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