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# Analysis of Urban System in Iran after the Islamic Revolution

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## ABSTRACT

Urban system in each country, is representation of the spatial political economy, how to manage land and planning in the country. Therefore, reviewing, assessing and studying urban systems, the distribution, balance or imbalance of population and the hierarchy of cities are identified. Urban system in Iran, due to relying on economy and revenue from oil and concentration of facilities and services in large cities, has been (sequence) oriented from proper traditional pattern (Galactic) before 1921 to (chain) pattern. This pattern is also disrupting the logical and hierarchical relationship in small mid and large cities with each other, as well as chaos in urban system in Iran. So this study aims at understanding the balance in the urban system in Iran from 1986 to 2011 hierarchically and in population. The research method is cross- sectional emphasizing on models study the quantity. The subject sample includes all cities in Iran in four census from 1986 to 2011. The research finding indicate that urban system in Iran during case study period in terms of class difference index, though we have seen growth cities in relatively high population class, the lack of mid cities still exist. Gini coefficient shows the same condition based on population concentration in large metropolises. Lorenz curve with more concave in each period, show the getting away from balance line. Results from Shannon entropy indicate changing conditions. Finally, some approaches have been offered to balance urban system.

**KEYWORDS**: Urban system, class difference, entropy coefficient, Gini coefficient and Lorenz curve.

# INTRODUCTION AND PROBLEM STATEMENT

Third millennium has been called "Urbanization era": since urban population has increased from 29 million people in 1800 to 2.8 milliard people in 2000.One of the main consequences of the increase in population, is million development of cities in urban system so that there has just been 4cities in 1800 with more than 1 million people around the world which has increased to 411 million cities in 2000 (Rhene Short, 2009). In few past decades, city centers have quickly expanded and become large cities (Nasiriya, 1995). In 1970, only 37% of world population were living in cities .In 1995 this number has reached to 45% and exceeded over 50 % in 2005 (Masika et al, 1997). It is expected that in 2025, the world urban population will exceed over 61 % (Nazariyan, 2001). Development of small and big cities in urban system of industrial countries has mainly been consistent with industrial development and is of a balanced pattern. But in developing countries the rapid growth of urbanization and its lack of coordination with the industrial Development, has made new problems in urban system of these countries (Parter and Ivanse, 2005). The result of such a rapid growth shows that the focus of much of the urban population is in one or two major cities of these countries (Halle and Faifer, 2009). In fact, this centralization can be the result of a reaction to the social division of labor and integration in the global economy (Gillbert and Gagler, 1996). Studies show that most of developing countries are dissatisfied with the development process of space habitats and regional distribution of the population of economic activities .Especially extremely concentration of socio - economic political and population activities have made many problems in the largest cities.

Iran as one of the developing countries had had a relatively balanced urban system before turn of the present century but after land Reforms (1962 to 1972) and rural migration to the cities, the urban system was imbalanced in Iran (Ali Akbari and Darbekhani, 2006). One reason for this heterogeneity was injecting surplus oil revenue to cities and changing their roles from traditional patter to pattern from capitalist relations. This has underestimated importance of country sides, and under lied development of large cities such as Tehran (Mojtahedzadeh, 2004). Space consequence of such development is population growth in cities, imbalance of urban networks, and emergence of the first urban pattern in Iran (Nazariyan, 1998). Studying urban system of Iran in past enumeration periods show that in spite of an increase in number of cities from 201 cities in 1956 to 1952 ones in 2011 and appearance of various small ,mid ,large cities even metropolises made urban system in

Corresponding Author: Mostafa Khazaee, University lecturer and PhD student in Geography and Urban planning Shahid Beheshti University, Tehran, Iran. mostafakhazaee2008@yahoo.com Iran lack required coordination in structure ,function and urban hierarchy .Imbalance of urban system in Iran is both factors endogenous(natural environment ...) and exogenous (political decisions ,political economy) and plays a critical role in population movement from villages and towns to large metropolises .On the other hand ,lack of logical relation between the difference levels of cities has under mind urban system in national and local scale.

#### Importance and necessity of Research:

Iran has a history of over 50 years in the preparation of spatial and regional planning .Now ,according to this record ,understand the available urban system and comparing it with previous stages ,the spatial outcomes of state decisions and population movement throughout the country indicate the success in achieving mentioned goals. In fact ,studying urban system in Iran ,indicate capital movement ,work force and the population throughout the land area between various metropolitan class which recognizing these movements can underlie a better organization in urban system in the light of future planning .

## **Research objective:**

The main intent of this study is to understand changes in the urban system of Iran and population movement after Islamic Revolution in 1986 to 2011 used various quantity models, to identify results of these evaluations, changes and balance of urban system in Iran.

Research questions: will increasing the number of cities from 496 cities in 1986 to 1952 ones in 1390 in urban system in Iran, in spite of local and national planning's make an increase in balance of urban system in Iran?

#### **RESEARCH METHOD**

The research method is cross-sectional here .The subject sample include all urban areas in Iran in statistical courses from 1986 to 2011.Data collection method is in the form of documents and library .In this study, in addition to classifying data of urban areas and their population, urban system in Iran was studied using quantitative models (class difference, entropy coefficient, Gini coefficient and Lorenz curve).

#### **Theoretical foundations and literature:**

Urban system is an arrangement of cities expanded and organized in a certain area and in connection with each other through population movements, flow of goods, thoughts and services.

Flow of goods, population movement and services is lifeblood and driving force for urban system and make it dynamic .Thus none of the cities can survive individually separately and without any interaction with other cities and human habitats (Shokooee, 2006).The term of "urban system "was first applied by Brian Berry in 1964.He means by saying "urban system ", a group of interdependent and interrelated cities namely the concept equals urban network (Azimi, 2003).

From this point of view, a network of large, small cities and their sphere of influence operating together in labor flows, goods interchange, and service and capital can be called urban system (Kotlyakov and Kemerovo, 2007). In this context, enter in terms of systemic relations between these cities, especially, their importance and role; require comparing them and its logical consequence should lead to a classification .This classification can be on the basis of their role identifying some of cities based on levels of features of socio-economical and public service. Thus an urban network which has been formed with a specific spatial order due to geographical conditions .can be classified quantitatively (population number )and qualitatively (their role and importance ) and placed consecutively in an order of a base and height of a row which is termed as "urban hierarchy "(Nazariyan ,2009). To pier George ,urban hierarchy doesn't necessarily indicate urban network ,but we can find its simplest form in hierarchy of cities which capital or metropolis is located on top of it and plays a role in commercial and rare services of the area and benefits from making administrative ,financial and command decisions of institutes in various level and under take the role of transferring services perhaps by mediation up to the smallest urban units and towns of five or ten thousand people and even to the heart of the countryside (Farid, 2005). Since urban network and relation between cities and population movement of cities existing in the network, is the spatial spatial representation of land management condition in each country, evaluating it is inevitable along with improving future plans. In order to identify how the urban system work, in spite of applying quantitative and spatial sciences, it is better to explain them in term of specific structures and functions in the context of political economy of a country. The most efficient model to explain how urban system are spatially arranged is to use an urban hierarchy and grading based on their size and function (Vinoth Kumar ,2007). In these models, most population of urban systems and order of structure arrangement to each other are being studied and role and sharing of cities are evaluated according to their size and in the context of population change of country (Amkachi, 2004).

Studying theoretical patterns of urban systems has focused on studying pattern that have ,so far ,been used and tested in many countries of the world in national and local planning ,In context of the patterns there have been raised some system and methods that understanding them is of highly importance .Walter Christener's, German geographer, theoretical, experimental and pioneering work is among basic effective factors in organizing urban network (Azimi ,2003).

Also geographical studying of urban system has been done early 20th century by some pioneer such as Flix Oerbach, Lutka, Gooridge and singer. In fact, hierarchy and system of cities ,have been resulted from "central place theory". (Christaler, Lusch, and Gaplien ). According to these models, class of each city is determined by number and variety of offered activities and there is a direct relationship between number and variety of activities and population of the city (Abedin Dar kush .2001).

Of course, before Christaler, a German geographer, Flix Aurbach, in 1913, has experimentally discovered that there is an inverse relationship between population size and city ranks .He stated this relation as following: if we arrange habitats in order of population size, the population of n city the n/I will be the biggest region of the city (Hugget, 2000). Zipova (1941) demonstrated that if population of cities is randomly distributed then the rank of cities will have an inverse linear relationship with logarithm of population size (Fanni ,2003).Brian Berri (1960s )studied urban systems of U.S.A and India using quantitative models .By studying the distribution of the rank -size of cities concluded that distribution of rank -size (normal) usually occurs in countries that have a developed economy and large various cities with big population (e.g. China) or has placed in a developing process (e.g. EI Salvador)(Zebar Dast ,2007).

In the area Global research, from 1969 to 2002, at least, 269 studies on Experimental law of "rank-size "of cities have been published in scientific journals (Cordoba, 2003).

Mark Gefferson (1933), German Geographer, suggested the idea of "prime city" for the first time in a special article .To explain the phenomenon, of large cities that much of the population and economic activities of country are centered there, and often have been the capital of the countries he called these kinds of cities as "prime city "and called this phenomenon as "urban prime "(Johnson and Martin ,2005). He claimed that most of developing countries and some of developed countries are of urban prime systems (Zebardast ,2007). Gefferson used "Relative Method "to determine prime city in 44 developed countries .Calculation by this method was done according to the ratio of first city to the second one (Hekmat Niva and Moosavi, 2006). Also he believes that densely populated cities with urban system usually aren't adapted with any model and usually the size of first city to eighth is higher than expected .Some scholars ,have interpreted primate city macrocephaly and some other have stated Great series of prime city as frail body of counties (Tofigh ,1997).But when the population ratio of the biggest city to the second city is more than 2,than city size is called "prime city " (Zebardast ,2007).Derkakis smith ,considers prime city as the population ,economic ,social and political control of a city over all other cities inside an urban system (Smith ,1998). According to the definition by united Nations .the feature of primate city the high concentration of urban population of a country in a city or a collection of cities .Guinsbery suggested that it is better to choose first four cities of urban system rather two to calculate rate of primate city .Thus he suggest the term of "Four cities index " which means the ratio of population of first city to the total population of second ,third and fourth cities .Richardson implementing the indicator of four cities with Rank -size rule , considered the ideal ratio of first city to total first four cities of urban system as 0.48 and according to him this distribution is the best form of excellence (Azimi ,2002). Henderson has said that countries with limited sources have to concentrate their underlying investment in one or two cities ,and this makes an primate city .Indeed ,infrastructures can attract industry ,employment ,migration and finally lead to primate city (Anderson ,2005).According to Henderson ,governments are ,by developing countries and increasing incomes ,able to invest in surrounding areas and this is to encourage decentralization. In fact, he shows that primate city, firstly, increase then decreases with income growth. In Iran, several scholars have studied urban system of Iran primarily using ranksize rule and offered a few suggestions in reducing the growth of large cities and paying more attention to mid and small cities:

Etemad (1984), Behforooz (1992), Nazariyan (1997), Rafieiyan (1996), Taghvayi (2000), Zebardast (2007). Models used in research:

To determine the position of urban system in a region or a country various examiner models can be used, which some used models in research is introduced here.

## **Class difference:**

This scientific method can be performed using statistical formulae especially with highest and lowest population data. The general structure of the model is as follows:

First stage: Determination of frequency amplitude of the population in cities

(1)R=Max(P) - Min(P)

Second stage: Determination of class count using Sturges' rule

 $(2)K=1+3/3\log N$ 

K: class count

N=city number

Third stage: Determination of class difference

(3) H=R/K

Fourth stage =Forming a matrix and dividing the cities (Hekmatniya and Moosavi, 2006).

#### **Entropy coefficient:**

Shannon entropy can be used to measure centralization degree and spatial distribution of geographical phenomena (Vinoth kumar et al 2007). Entropy is a non-parametric criteria to show the balance of a system in distribution and the more index level, distribution is moving toward balance (Zebardast ,2007). The idea of this method is that the higher distribution in the level of an index ,the more important will be the index (Momeni ,2008). Using this model, we can find the spatial balance of population and number of cities in an urban ,provincial ,local and national network (Hekmat Niya ,and Moosavi)

 $H = \sum pixln(pi)$ 

G= H/InK

In above formulae:

H: Total frequency of log Nehprii

Pi: Frequency (population percent of each class of total class population)

G: Entropy

Ki class numbers

Entropy coefficient has a range of zero to one ,the closer to one it is, represent a fair distribution and the closer to zero it is , represents an imbalance in population distribution (Tsai ,2005).

#### Lorenz curve and Gini coefficient:

One of the most important tools to analyze socio-economic imbalance is to use Lorenz curve .On the other hand, this curve shows the imbalance between two densely distribution (population and class number) in a chart. Based on this curve there is a possibility of comparing a variable distribution (with uniform distribution) graphically (Jalali, 2008), in harmonious geographical distribution, the Lorenz curve is emerged as a direct line, unless it is arc mode which in concave curve shows the highest geographical centralization degree in area (Momeni ,2008). The closer Lorenz curve to ideal line ,represents a balance in cities .The Gini coefficient was used to show the numerical representation of Lorenz curve .The amount of this coefficient is between zero and one in which zero means a completely equal distribution and one means an absolute inequality in population distributions may have equal Gini coefficient (Arsalan Bad ,2004).Cumulative percent of number of cities and cumulative percent of population in center of cities are used to drew Lorenz curve .The following formulae was used to determine Gini coefficient (Ziyari and Moosavi ,2005):

Gini cumulative coefficient =  $\frac{area between curve and balance line}{area}$ 

#### **DISCUSSION AND FINDINGS**

In this study, Iranian urban system have been studied in statistical courses after Revolution, namely from 1986to 2011, by mentioned

#### Models as follows:

Evaluation of urban system situation in Iran using class difference model using result from class difference are well observed in Tables (1) to (4) showing vacuum caused by the absence of urban areas between population groups in cities .On the other hand, the table are indicating an imbalance situation which is in general pattern of city distributions in urban system of Iran.

As result, it can be said that the general pattern of city distributions of the country has no right symmetry and increasing the number of cities from the upper classes to the lower classes is in a regular way.

Table 1: statistically population classification of cities in class difference										
Row	Cities population	Number of cities	Percentage	City Names						
1	5438327-6042584	1	0.2	Tehran						
2	4834068-5438326	-	-	-						
3	4229809-4834067	-	-	-						
4	3625550-4229808	-	-	-						
5	3021291-3625549	-	-	-						
6	2417032-3021290	-	-	-						
7	1812773-2417031	-	-	-						
8	1208514-1812772	1	0.2	Mashhad						
9	0-1208513	494	99.6	Other Cities						
Total	-	496	100	-						

Table 2: statistically population classification of cities in class difference										
Row	Cities population	Number of cities	Percentage	City Names						
1	6101903-6656619	1	0.2	Tehran						
2	5547186-6101902	-	-	-						
3	4992469-5547185	-	-	-						
4	4437752-4992468	-	-	-						
5	3883035-4437751	-	-	-						
6	3328318-3883034	-	-	-						
7	2773601-3328317	-	-	-						
8	2218884-2773600	-	-	Mashhad						
9	1664167-2218883	1	0.16	Ishfahan						
10	1109450-1664166	1	0.16	Tabriz, Shiraz, Karaj, Shiraz, Qom,						
				Kermanshah						
11	554733-1109449	6	0.98							
12	30-554732	603	98.54	Other Cities						
Total	-	612	100	-						

Table 3: statistically population classification of cities in class difference											
Row	Cities population	Number of cities	Percentage	City Names							
1	7196605-7796316	1	0.9	Tehran							
2	6596893-7196604	-	-	-							
3	5997181-6596892	-	-	-							
4	5397469-5997180	-	-	-							
5	4797757-5397468	-	-	-							
6	4198045-4797756	-	-	-							
7	3598333-4198044	-	-	-							
8	2998909-2998620	-	-								
9	2398909-2998620	1	0.9	Mashhad							
10	17991797-2398908	-	-	-							
11	1199485-1799196	4	0.39	Isfahan, Tabriz, Shiraz, Karaj							
12	599773-1199484	3	0.3	Shiraz, Qom, Kermanshah							
13	78-599772	1002	99.13	Other Cities							
Total	-	1001	100	-							

Table 4: statistically population classification of cities in class difference											
Row	Cities population	Number of cities	Percentage	City Names							
1	7418560-8154051	1	0.08	Tehran							
2	6683068-7418559	-	-	-							
3	5947576-6683067	-	-	-							
4	5212084-5947575	-	-	-							
5	4476592-5212083	-	-	-							
6	3741100-4476591	-	-	-							
7	3005608-3741099	-	-	-							
8	2270116-3005607	1	0.08	Mashhad							
9	1534624-2270115	2	0.17	Isfahan, Karaj							
10	799132-1534623	5	0.43	Ahvaz, Tabriz, Shiraz, Qom, Kermanshah							
11	63640-799131	120	10.53	-							
12	9-63639	1010	88.68	Other Cities							
Total	-	1139	100	-							

As table show in all these statistical courses Tehran has still retained its first position with a big distant difference of other cities and is called an primate city .Up to now during these courses ,we've witnessed million city increase in such cities as Mashhad ,Isfahan ,Tabriz, Karaj and Shiraz just after 8th place in city classes ,which while having positive impact and balance nationally and increasing regional influence ,still there is a big distant difference ,both in terms of population and influence .

## Results from Gini coefficient and Lorenz curve:

In Iran like other developing countries, not only the urban hierarchy is irregular and disrupted, but also the irregularity and difference in urban population distribution is also irregular and out of acceptable balance in urban areas of the country. This irregularity indicate severe centralization in central cities of provinces and metropolitan cities.

As the table 5 shows, in enumerations of 1986 -2011 in cities with more than 1 million people, includes less than 1 %of total cities in Iran. These cities have accommodated average urban population in themselves with 28.04% in 2011 on the other hand, cities with more than 1 million populations have devoted more than one

Table 5: ordinary and densely percent of urban population groups and urban population of the country																	
Distance from	1986			1996			2006			2011							
urban (n)	Cities		The u popu	The urban population		Cities 1		The urban population		Cities		The urban population		Cities		The urban population	
	D.M	D.T	D.M	D.T	D.M	D.T	D.M	D.T	D.M	D.T	D.M	D.T	D.M	D.T	D.M	D.T	
Less than 4999	16.8 3	16.8 3	0.95	0.95	15.3 5	15.3 5	0.09	0.09	30.9 5	30.9 5	1.83	1.83	32.4 8	32.4 8	1.96	1.96	
5000-9999	22.6 8	39.5 1	3.1	4.05	23.6 9	39.0 4	3.03	3.12	23.6 0	54.5 5	3.6	5.43	24.3 1	56.8 0	36.68	5.65	
10000-24999	29.1 3	68.6 4	8.6	12.6 5	26.9 6	66	7.4	10.5 2	20.7	75.2 5	6.8	12.2 8	19.4 9	76.2 9	6.47	12.12	
25000-49999	13.9 1	82.5 5	8.63	21.2 8	15.0 3	81.0 3	9.38	19.9	9.84	85.0 9	7.5	19.7 3	9.04	85.3 3	6.83	18.95	
25000-49999	9.2	91.7 5	11.7 3	33.0 1	10.1 3	91.1 6	12.7 6	32.6 6	7.02	92.1 1	10.0 3	29.7 6	7.11	92.4 4	10.54	29.49	
100000-2499999	5.04	96.7 9	13.9 8	46.9 9	5.25	96.4 1	13.3 6	46.0 2	5.34	97.4 5	17.4	47.1 6	5	97.4 5	17	46.50	
250000-4999999	1.61	98.4	8.27	55.2 6	2.3	98.7 1	13.5 4	59.5 6	1.28	98.7 3	9.7	56.8 6	1.31	98.7 7	10.25	56.76	
500000-9999999	1.20	99.6	16.7	71.9 6	0.65	99.3 6	9.2	68.7 6	0.69	99.4 2	10.3	67.1 6	0.52	99.2 9	7.04	63.8	
1000000-14999999	0.2	99.8	5.54	77.5	0.32	99.6 8	6.63	75.3 9	0.29	99.7 1	8.31	75.4 7	0.35	99.6 4	9.58	73.39	
1500000 to tap	0.2	100	22.5	100	0.32	100	24.6 1	100	0.29	100	24.5 3	100	0.35	100	26.6	100	

fourth urban population which in 2011 has reached to one third .This change, according to the last enumeration shows the distribution to be unbalanced.

As it can be seen from the above figures ,urban population distribution has no balanced structure in the hierarchy of cities and in both enumerations there is a higher centralization in metropolises of more than 1 million people .Also Lorenz curve which is showing the graphical representation of this balance or imbalance ,indicates this fact (diagram1)which has been set on the basis of dense percentage of urban classes and urban population (Table 5) shows that there is a very concave in Lorenz curve in studied course which the difference can be seen in distancing from the uniform distribution line .The mentioned diagram identifies that finding population in urban areas was not ideal and there was no ideal and positive change in four last enumeration ,Moreover ,Lorenz curve is far from uniform distribution line.



Diagram 1: unbalanced distribution representation of urban center and urban population in Iran using Lorenz curve (1986 -2011).

# Calculating Gini densely coefficient for four intended courses shows the following results:

Gini densely coefficient 1365 =0.71

Gini densely coefficient 1375=0.73

Gini densely coefficient 1385=0.8

Gini densely coefficient 1390=0.81

So it can be observed that Gini densely coefficient in studies course, is variable between 0.71 to 0.81. The distance of this number from zero and closing it to one in intended statistical courses shows an increase in inequality in urban population distribution so Gini densely coefficient in 1365, is semi-balance, in 1996 semi-balanced, semi-balanced in 2006 and critical in 2011 worse than 2006.

#### Evaluating urban system in Iran using Entropy coefficient:

According to this model, the spatial distribution of cities in urban classes in cities of Iran has been calculated which its results are mentioned in the rest of this study.

Table 6: calculation of entropy coefficient variation in urban classes in Iran during 1365-1390																
1986			1996			2006				2011						
Class Cities	Populati on	Pi	Lnpi	Pi*Lnp i	Populati on	Pi	Lnpi	Pi*Lnp i	Populati on	Pi	Lnpi	Pi*Lnp i	Populati on	Pi	Lnpi	Pi*Lnp i
Less than 4999	25800	0.009	-4.71	<b>-</b> 0.04	285000	0.007	-4.96	-0.03	887000	0.018	-4.01	-0.07	1053535	<mark>0.01</mark> 9	-3.96	-0.07
5000-9999	83200	0.03	-3.5	-0.1	1104000	0.029	-3.54	-0.1	1713000	0.035	-3.35	-0.11	1975534	0.036	-3.32	-0.11
10000-24999	2302000	0.08	-2.46	-0.2	2577000	0.06	-2.67	-0.18	3322000	0.06	-2.68	-0.18	3474536	0.06	-2.74	-0.17
		5				9				8				4		
25000-49999	2320000	0.086	-2.45	-0.21	3309000	0.089	-2.41	-0.21	3650000	0.084	-2.59	-0.19	3665258	0.068	-2.68	-0.18
25000-49999	3154000	0.117	-2.14	-0.25	4259000	0.115	-2.16	-0.24	4840000	0.1	-2.3	-0.23	5656744	0.105	-2.25	-0.23
100000- 249999	3756000	0.139	-1.97	-0.27	5133000	0.139	-1.97	-0.27	8137000	0.168	-1.78	-0.29	9121849	0.17	-1.77	-0.3
250000- 499999	2225000	0.082	-2.5	-0.2	4773000	0.129	-2.04	-0.26	4894000	0.101	-2.29	-0.23	5503593	0.102	-2.28	-0.23
500000- 999999	4490000	0.167	-1.78	-0.29	3216000	0.087	-2.44	-0.21	4963000	0.102	-2.28	-0.23	3779815	0.07	-2.65	-0.18
100000- 1499999	1463000	0.054	-2.91	-0.15	3510000	0.095	-2.35	-0.22	4011000	0.083	-2.48	-0.2	514720	0.095	-2.35	-0.22
1500000 to tap	6042000	0.225	-1.49	-0.33	8646000	0.234	-1.45	-0.33	1182700 0	0.245	-1.4	-0.34	1427417 7	0.026	-1.32	-0.35
Total	2684500 0	1	-25.91	-2.04	3681800 0	1	-25.99	-2.05	4825900 0	1	-25.16	-2.07	5364666 1	1	-25.32	-2.04

Table 7: Ent	ropy coefficient	in all cities of	the country in 1	1986- 2011
Year	1986	1996	2006	2011
ntropy Coefficient	0.885	0.89	0.898	0.885

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As it was stated in Shannon entropy model ,movement from zero to one and higher shows a more balanced population distribution in urban network and reducing primate city .In table 7 the result from calculating the entropy for four enumeration courses pare indicated .In general ,the number in table show numbers less than one that mean imbalance in population distribution .By observing and cycle analyzing of this coefficient it can be stated that population distribution has been drive to balance from 1986 to 2006 ,and this can be due to reasons such as city development ,especially mind and large cities after revolution and after war and also development of small cities which has relatively reduced difference of Tehran population with other cities but as it can be seen in the latest enumeration ,in 2011 ,this number is considerably reducing which means more centralization of urban population in Tehran and metropolises and increasing of the difference in urban population distribution between cities while regional and national plans.

According to exact analysis of scientific various models along with urban system analysis we concluded that basically plans and approaches which have been compiled after Islamic Revolution (1986-2011) along with -making balance to urban system in Iran couldn't ideally promise order and justice in urban system in the country .And we observed that in some cases ,even ,the situation was getting worse(urban system in Iran has driven to imbalance)surely the continuing this trend cannot bring about an ideal future for urban system in Iran ,so mechanisms of disorder and imbalance should be quickly identified and some plans should be prepared to solve them which in this context spatial plans should be considered as in national and regional scale and as scientific and logic way as the most basic approach.

#### REFERENCES

- Arsalan bad, MR. (2004) Changes in income distribution in urban and rural areas of economy, agriculture and development, in twelve (45)
- Amkchy, Hamida (2004) central cities and their role within the framework of National Development, Urban Development and Architecture Research Center, Tehran, printing
- Partr, Robert B. and Evans, Sally Lloyd (2005) in the developing world, translated Irandoost Kiomars. Mehdi Dehghan Manshad and Mitra Ahmadi, Tehran Municipality of national publications, printing
- Success, Feroz (1997) cities and service network, Volume I: Theory and Literature, Architecture & Urbanism Research Center, Tehran

Jalali, M. (2008) evaluating the Gini coefficient in Iran, Iranian Journal of Economic Research. No. 36

- Nia wisdom, faith and Mousavi, Mir Najaf (2006) Application of urban and regional planning, new scientific publications, printing, Yazd
- Drakakys Smith, David (1998) in the third world, translation Feroz Jamali, publishing development, Tehran
- Renee Short, John (2009) theory of critical evaluation of the city. F. Ziyari dignity translator, Hafiz Mehdi Nejad, avoid shouting. Tehran University Press, First Edition

Proficient, Esfandiar (2007) Evaluation of the first urban developments in Iran, fine arts magazine: No. 29

- Ziyari, Kramt¬Alh and Myrnjf Mousavi (2005) study of urban hierarchy of West Azerbaijan province, Journal of Isfahan University (Humanities), Volume XVIII, Number 1
- Shkvyy, H. (2006) New perspectives in urban geography, Tehran, publisher side, tenth edition
- Abedin Drkvsh, S. (2001) An introduction to urban economics, Publishing Centre (SID), second edition, Tehran
- Huge, N. (2002) Scanning Basics urbanization and urban systems, Mashhad, Nika Publishing, Printing
- Huge, N. (2003) methodology settlements in the physical network of regional, Research and Studies Center of Planning and Architecture, printing, Tehran
- Farid, Yadu'llah (2005) Geography and Shhrshnasy, Tabriz University, Tabriz, the sixth edition Technically, Z. (2003) The role of small towns in regional development, the publisher of the country's municipalities, First Edition
- Gilbert, Alan and Gaglr, Joseph (1996) cities, poverty and development. Translation Parviz Karimi Nasseri, Office of Public Relations and International Tehran Municipality, First Edition, Tehran
- Born priest, GH (2004) Urban Planning at the University of Ayran.thran message

Momeni, M. (2008) The new issue of Operations Research, Tehran University Press, second edition

- Nazarian, A. (1998) Urban Geography of Iran. Tehran, PNU, Fourth Edition
- Nazarian, A. (2001), "the cities of the future, the focus of humanitarian tragedy, or context of cultural balance", Quarterly geographical space, No. 3
- Nazarian, A. (2009) the dynamics of urban systems in Iran, Tehran, innovators, printing Peter Hall and Pfeiffer Avlrykh (2009), the future of 21st century urban translator Ismail honest, Nahid Sadeghi, The Society of Consulting Engineers, Printing
- Chen, Yanguang, (2008), A Wave- Spectrum Analysis of Urban Population Density: Entropy, Fractal.
- kotlyakov V, M&komarovaA. I. (2007), ELSEVIER'S DICTIONARY OF GEOGRAPHY, Printed and bound in The Netherlands, Elsevier.
- Masika, R. and Haan, A. and Baden, S.(1997), Urbanisation and Urban Poverty: Agenda Analysis.
- Tsai, Yu. Hsin, (2005), Quantifying Urbanform Compactness Versus Sprawal. Urban Studies, Vo. 142, No1.
- Vinoth Kumar Antony, pathan, S. K, (2007), Spatio-Temporal Analysis For Monitoring Urban Growth, a-Case Study of Indore City. Journal of the Indian society of remote sensing, Vol. 35, No. 1.
- Christopher Chase-Dunn, (1985) The Coming of Urban Primacy In Latin America, Department of Sociology Johns Hopkins University Baltimore, Maryland, U.S.A.
- Johnson, Bjorn, Lehman, Martin (2005), Sustainability and Cities as System of Innovation, Allborg University Department of Business Studies.
- Anderson, G. and Y. Ge (2005) The Size Distribution of Chinese Cities: Regional Science and Urban Economics.
- Cordoba, j-c. (Feb. 2003) On the Distribution of City Sizes; Rice University.