

Assessment and analysis of indices of urban sustainable development in small cities (case study of Soran)

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ABSTRACT: *density and villagers migrate to the cities attention and emphasis was planning to strengthen and grow small towns. The study by researchers in different countries shows that small towns are one of the most successful examples of settlement in the area of sustainable development. Soran and the social and physical areas of urban sustainability indicators in urban areas is presented. The research method of this study is survey method and the data has been obtained from the questionnaire. The results of findings show that in terms of urban sustainability indices, the city of Soran has not a desirable situation in relation to the medium of urban system but it is in the same state in terms of more social, economic and physical indices in relation to urban system of country which it is noticeable clearly.*

KEY WORDS: *development, sustainable urban development, small towns, Soran*

I. INTRODUCTION

The city is the main base of human civilization and it is the technological and mind crystallization of human. The study of urban growth reflects that the growth of urban population is growing rapidly (Saifadini, 1999: 75). In the past, the changes in urban growth were slow and the possibilities, variety of tools, and technology and also the interests were limited and the system of common and popular culture didn't served well and their product was a city with a harmonious and sustainable appearance. Rapid population growth and its focus in cities all over the world will effect on the majority of human's prospect of living in cities. The crises of this rapid growth are poverty, environmental degradation, lack of urban services, the fall of existing infrastructure, lack of access to land and shelter. Urban planning of twentieth century ended when this plan is not only positive but it has supplied an unseemly figure of city against urban environment and it has threatened social integration and biological structures by using of the culture of technology and it will have no result except the instability and imbalance in natural, social, economic and physical infrastructure (Ziari, 2001: 371).

In the early of 21th century, the urban population of the world was 50 percent population of the world and it will be foreseen that it will be more than 61 percent of the population of the world until 2025. Nearly 12 percent of the population will be living in cities of over 10 million people and the cities with 25 to 30 million people will be possible and foreseeable. So all over the world, on the one hand we will observe some imbalances between economic development and population growth and on the other hand we are to conserve natural resources and living conditions that are closely related to policies and practices in urban areas. Throughout human history, the present age has seen the greatest environmental benefit because the demand and function and the development of cities and urbanization. Cities, especially the large and medium cities are conjuncture and the focus of most impact and influence on nature. Sustainable development is the thought-provoking discussion of recent developments that will be questioned this unhealthy relation in some ways (Fanni, 2003: 48). The theory of urban sustainable development will propound some issues such as regional and urban pollution prevention, reducing the production local, regional and national capacity, support the renewable processes of materials, and not to support the harmful development and finally it want to close the gap between the poor and the rich. The ways to achieve the goals of the theory are urban, rural and regional and national planning that is known equal to the law of more control of application and more controlling on cities and villages progress (Papelli yazdi, 2003: 340) and this theory also propounded the urban development and introduction of the

principle of sustainable development, paying more attention to issues of sustainability. The existing problems, especially in big cities are the sign of non-fulfillment of their stability characteristics. In this situation, the urban geography will have new dimensions and realms and by studying the important issues of the third world countries and the problems of large cities growth, the population density and also rural migration to cities caused that the planners emphasize on boosting the growth of small towns (Rezvani and et al, 2007: 45). The development of small town is a suitable method for spatial development and economic growth and social stability and it can act as an alternative to the growth of large cities. But it seems that such a development will be obtained and formed if such cities have not the problems of big cities in small scales and provide a suitable atmosphere for present and next generation. But at the local level, a problem that more than any other issue must be considered is attention to equality and justice on the basis of socio-economic and physical dimensions and indices from the view of urban sustainable development. Up to now, the development planning has considered the large and medium cities and less attention has paid to small cities. So, except of the attraction of crowds and functions diversity, the small cities face the same problems of large cities. These problems are seen in various aspects of economic, social, environmental and physical. So, according to the increase of the number of small cities and their progress, it will be reasonable to predict a comprehensive and multidimensional development planning and suitable for those cities, a plan and program that will consider all environmental, physical, economic, social and urban dimensions of the city. Today's small cities are the basis of future large cities and by adoption of new functions and physical progressing will be changed to larger cities with larger problems and different limitations if there is no suitable and proper planning and programs. So the planning for the sustainable development of small towns has entered as a new approach in the field of urban studies but an important question that will be propounded is that the sustainable development of these settlements will be achieved by which factors (Naderi, 2008: 3). The city of Soran is located in a plain with same name in the city of Sib and Soran with a population of 12158 is a sample of a small city. The city of Soran located along the plain and with its 12158 population is a sample of a small city and according to statistical analysis it can be said that the population of the city has increased dramatically in recent decades so, due to population growth and its related problems such as physical urban growth horizontally because of social tensions, lack of services, difficulties in transportation within the city, the increase in per capita residential, agricultural land degradation, low per capita green space in the city as well as social security in present time and future, it is difficult to be able to continue its development suitably and ideally and play a role in the urban system of the province so for not facing the difficulties of lack of programs in future a comprehensive and multilateral program should be speculated for it. So, finally it is tried to study and examine the economic, social and physical indices as much as possible.

The hypothesis of the research

In terms of statistical indices of sustainable development, the city of Soran has a good performance.

The history of the research

Sluiter & de Jong (2007) in a research, studied «Factors affecting urban development». The results suggest that in addition to the human factors, a combination of physical and biological factors is important in extraction patterns of urban development. Luederitz et al In their study on the guiding principles for sustainable development of urban neighborhoods of Germany, concluded that there are various factors in the city that can be effective in improving of that region and it often prevails in most cases of the city and the can be empowerment of managers and leaders of the city's administrative, technical and technological infrastructure and landscape design for city.

Table (1): Background research on the topic under study

Research Title	researchist
Analysis of the role of small towns in the socio - economic development surrounding villages	M. Housain abadi, 2010
The role of small towns in sustainable development	B. Naderi, 2008
Small town and its position in third world, New York	UNCHC,2009
small Towns and urban planning in developing country, Urban studies	Nile Hinrey,2007

Reference: research findings

Basics theoretical

Town

Mainly defined small-town on the population size is emphasized the reasons for the limited information on other characteristics of these cities (Fani, 2003,14) To towns, cities which are less than 10 thousand to 50 thousand populations and have some roles such as urban retail, marketing, and transport center of the local administration (Shakvei,1998, 414). The Islamic Republic of Iran Cities Setiran and land use planning initiatives between 5 thousand to 25 thousand people were considered as small towns. The National Physical Plan into compliance with the standards provided by the United Nations, the city of 50 thousand people is seen as a small town. (Izadi Kharamé, 2001, 138).

Small towns and reasons affecting their ductility

Reasons different at form accessibility towns small involved is with attention to location geographic and other factors environmental, city small, to title focus area the influence own known by and with charge catch other the role of service and social and cultural, with development agriculture and creation centers market at the species areas set to name city small the people the if (Shirazi, 1999, 27).

Small towns and their socio-demographic characteristics

Role city small to title a location central at an area more dependence space the between the location and villages prepared the won. Prove connection economic with city, preparations a series movements population the provided and at towns small section wide of population to activity of agriculture occupation have and of the as in same enjoying of some utility of life at city, of quality environment rural and small the interest brand. (Babie, 2002, 27).

Small towns and service characteristics and economic

Study of urban geography mainly focuses on large cities but also smaller paths influence of geography on urban issues (Yamashita, 2004: 473). Provide services support agriculture and services other to villagers under area influence one of tasks the basic towns at a system series hierarchical and accommodation proportional the bee. rural to reason close to city small can at form location services the basic at the cities to easily of the facilities use do . One of the roles of the small towns that economic performance through various markets, capital flows, consumption and the order of the income is realized. cities small share large of occupation at section agriculture industries manual and workshop small scale and services category low that rate growth rather lower at total occupation the city is on responsibility have. (Razaei, 1999: 19). To general of perspective economy areas rural cities to title centers market business role axial at strengthening durable sector agriculture expand its creation base the diversity activity of economic area and process increase regional income have farms of by marketing export their the first tools business income of economy external to within a area rural to count the come (Shakvei, 1998: 295). Creation centers market with reliance on form a series more proper of centers development, one of elements development rural is and towns small at form the series more role important have and the gap can between towns and megalopolises the full do and centers marketing the at level local distribution to (Izadi Kharama, 2001: 198). At a sum classification final the power said that strengthening role town's small, opportunity and background of new for employment, capital mark, mobilization services and facilities welfare and social area to existence the won. These action development process the center to areas margin a brought is (Dashtei Brinje, 2000: 31).

The small cities and sustainable development

Large and small cities and villages have their own response toward these dimensions so; there will not be the same prescription and draft for sustainable development of all of urban communities. To the proportion of urban population and industrial employment, the cities have some impacts on urban environment and its surrounding. In contrast, the small towns have their own issues in accordance with their own performance. The small cities with their environment have features and barriers and constraints for achieving sustainable development.

The pro and the fans of small cities and perhaps they can be known as the opponent of large cities, believed that the agricultural and industrial development are not separated and emphasizes on economy of centers of small cities. Emphasizing on human issues, this group believe that the citizens will lost their private relationships in large cities (Zebardast, 2004: 24).

Feeling and sentiments will be weakened in large cities and human will reach to a level of self alienating and a result of it, he will reach to the level of social vacuum. This group has studied the problem from the view of biologic- environmental and believed that the small cities harms environment less and the air and sound pollution are less in small cities. They have an aesthetic look on the size of cities and believe that the most beautiful and most historical cities in 20th century were small cities (Dashti barzanja, 2000: 36).

Identifying of the studying region

The city of Soran and Sib is located in south-east of Iran at latitude of 27/2' N and at the longitude of 62' S with the population of 52 thousand people and its density of population is 10 people in 10 square kilometer. 75% of the population engaged in farming combined with livestock and it also has 364 residential small villages and 220 villages and 8724 families. The extent and area of this city is 9324 square kilometer. This city leads from North to the city of Khash, from east to the city of Saravan, from south to the city of Bam and from west it leads to the city of Zaboli (Mehrestan). Based on statistics of 2011, the population of the city of Soran is about 12158 people (detailed plan of the city of Soran, 2009).



Figure (1): Map of the study area, Reference: research findings

II. DISCUSSION AND CONCLUSION

The analysis of hypothesis in direction of chosen indices of institutional- physical

For analyzing of hypothesis in direction of chosen indices of institutional- physical, the variables and indices of the following table is used.

Table (2): indices of institutional-physical of variables between the city of Soran and urban areas of the country.

index	The city of Soran	Urban regions of country
residential Per capita	45/68	25/19
Commercial Per capita	1/37	0/98
Educational per capita	4/5	1/02
High educational per capita	0/54	1/3
Religious per capita	0/09	0/17
Cultural per capita	0/09	0/17
Tourist per capita	0/06	0/12
Health care per capita	3/7	0/88
Sport per capita	1/25	0/12
Green space per capita	1/95	3/88
Transport per capita	1/94	21/4

Reference: the author's studies (the unit of indices is square meter)

According to the amount of possibility related to the Wilcoxon test, one sample is equal to 0/534 which is more than 0.05 so with certainty of 90% the statistic assumption or the hypothesis of H₀ that «the city of Soran has not proper function in respect to urban medium system according to the institutional-physical indices of sustainable development» cannot be rejected. Therefore a significant correlation in the institutional-physical indices of the region is not observed.

So as the result, the hypothesis of the research in direction of the institutional-physical indices isn't confirmed.

In the following of this research, the analysis of the first hypothesis in respect to the chosen institutional-physical indices of the sign test will be studied. According to Table (2), the probability of a sample sign test is equal to 1/000 that is larger than 0.05. So with certainty of 90 % the statistic assumption or the hypothesis of H₀ that «the city of Soran has not proper function in respect to urban medium system according to the institutional-physical indices of sustainable development» cannot be rejected. Therefore a significant correlation in the institutional-physical indices of the region is not observed. So as the result, the hypothesis of the research in direction of the institutional-physical indices isn't confirmed.

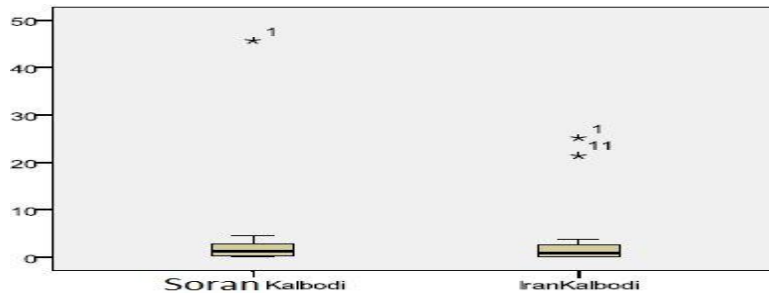


Figure (2): the comparison of chosen constitutional-physical of the city of Soran and urban regions of the country, Reference: research findings

The analysis of the hypothesis in direction of economic chosen indices

The variables and the indices of table (3) have been used to analyze the hypothesis in direction of economic chosen indices.

Table (3): The comparison of economic chosen indices of the city of Soran and urban regions of the country

Index	The city of Soran	Urban regions of the country
Percent of the economically active population	38/6	38/77
Percent of the economically inactive population	61/4	61/23
The percent difference in men's and women's activity	39/8	38/95
Unemployment rate	9/6	11/82
Employment percent of population aged 10-14	0/7	0/8
Relationship ratio	1/5	0/43
Percent of families who owns land and buildings	64/8	62/2
Percent of renter families	21/4	9/2

Reference: research findings

According to table (3), the amount of possibility related to the Wilcoxon test, one sample is equal to 0/233 which is more than 0.05 so with certainty of 95 % the hypothesis of H0 that «the city of Soran has not proper function in respect to urban medium system according economic indices of sustainable development» cannot be rejected. So as the result, a significant difference in chosen economic indices isn't confirmed.

Table (4): direction of economic chosen indices

The comparison of economic chosen indices of urban regions of country and Soran	
-1.192	The amount of Z
.233	Significance level

Reference: research findings

In the following of this research, the hypothesis will be analyzed in direction of economic chosen indices of one sample test. The amount of one sample is equal to 0/727 which is more than 0.05 so with certainty of 95% the hypothesis of H0 that «the city of Soran has not proper function in respect to urban medium system according economic indices of sustainable development» cannot be rejected. So as the result, a significant difference in chosen economic indices of the two regions isn't observed.

So the hypothesis of the research in direction of economic chosen indices won't be confirmed.

Table (5): the analysis of hypothesis in direction of economic chosen indices within one sample test

The comparison of economic chosen indices of urban regions of country and Soran	
.722	Exact sig

Reference: the research findings

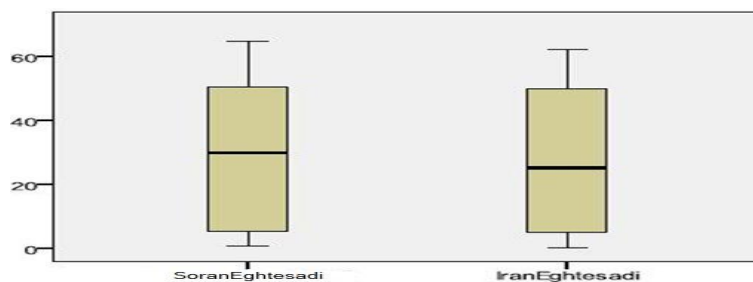


Figure (3): The comparison of economic chosen indices of urban regions of country and Soran Reference: research findings

The analysis of hypothesis in direction of social chosen indices

The variables and indices of the following table (6) are used for analysis of hypothesis in direction of social chosen indices.

Table (6): the chosen indices of social sustainability of the city of Soran and urban regions of country

Index	The city of Soran	Urban regions of country
The population growth rate at 2006-2011	2/33	1/61
The population proportion of men to women	1/03	1/04
The percent of male literate population	87/25	88/93
The percent of female literate population	37/43	85/55
The percent of families with no illiterate member	79/6	73/1
The difference of literate male and female percentage	2/39	6/64
Families' growth rate at 2006-2011	3/82	4/5
families' growth rate with 5 people and more	25/08	32/21
The percent of population aged 0-14	33/13	23/7
The percent of population aged 65 and more	4/4	4/77
The medium of families' dimensions	5/4	3/89

The reference: research findings

According to table (6) the amount of possibility related to the Wilcoxon test, one sample is equal to 0/594 which is more than 0.05 so with certainty of 95 % the statistic assumption or the hypothesis of H0 that there is no significance difference is not rejected so no significance difference in social chosen indices of the region is observed. So as a result of it, the first hypothesis of the research in direction of social chosen indices will not be confirmed.

Table (7): the analysis of hypothesis in direction social chosen indices within the Wilcoxon test

The comparison of social chosen indices of urban regions of country and the city of Soran	
-.533	The amount of Z
.594	Significance level

Reference: research findings

In the following of this research, the hypothesis will be analyzed in direction of social chosen indices of one sample test. According to table 7 the amount of possibility related to the Wilcoxon test, one sample is equal to 0/549 which is more than 0.05 so with certainty of 95 % the statistic assumption or the hypothesis of H0 that there is no significance difference is not rejected so no significance difference in social chosen indices of the two regions is observed. So as a result of it, the first hypothesis of the research in direction of social chosen indices will not be confirmed.

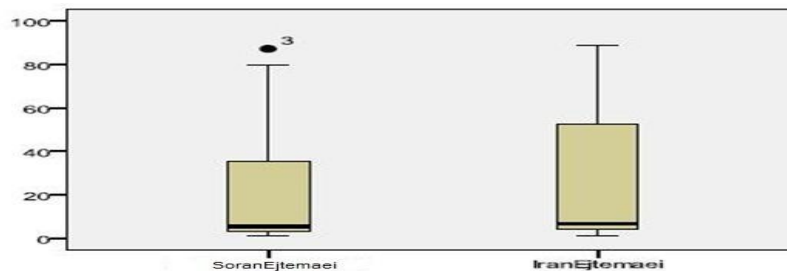


Figure (4): The comparison of social chosen indices of urban regions of country and the city of Soran, the Reference: research findings

III. CONCLUSION

The results of findings show that in terms of urban sustainability indices, the city of Soran has not a desirable situation in relation to the medium of urban system but it is in the same state in terms of more social, economic and physical indices in relation to urban system of country which it is noticeable clearly. The city of Soran has a high per capita of residential housing but the quality of housing is average and in terms of access to safe drinking water and plumbing, electricity and telephone are at a high level. The city of Soran has desirable health facilities but it has some defects in terms of positioning and citizens' access to pharmacies, medical institutions and doctors because a large portion of these facilities are located in the central part of the city and will cause a kind of population density in the center of city and will have a negative impact on intramural transportation. Inefficient management and lack of attention to the region's talent have caused that the city of Soran be dependent on service jobs and important activity is not done in the industrial sector in the city and this factor will cause that the unemployment rate go up. The city's workforce is also reluctant to invest in agricultural occupations and prefer to invest on service jobs which affect the rate of employment.

Suggestions

1. Increasing and accelerating of investment in public sector for constructing and launching of major infrastructure projects such as airports, universities, hospitals and connecting roads.
2. Support agricultural production in order to reduce rural and urban migration.
3. Develop technical and training centers.
4. Increasing the proportion of literates and providing of special facilities for training women.
5. Strengthening of municipalities to attain relative self-sufficiency, particularly in the provision of land for construction projects.

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