

The Environmental Quality of City and Urban Sprawl in Babolsar

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Received: 19/04/2011

Accepted: 21/12/2011

Extended Abstract

Introduction

The dominant form of cities has been urban sprawl worldwide which created multi socio-economic and environmental problems. Critics believe that this form of urban growth is the most unsustainable expansion of cities resulted from Intensive use of private cars and haphazard urban land use planning. The issue dictated planners to seek for a more sustain and healthy urban form which could guarantee the balanced growth of cities, and so the compact city was one the most defended form for the contemporary urbanism. Now the main question was that which one of urban form i.e. compact or sprawls provide better quality of life? There are many issues which should be considered in first place and then to determine the best option for urban growth. Initially, the level life satisfaction is related to different socio-economic status and the mode of transportation of urban residents and other factors. Urban sprawl common in USA, Australian and Canada is different with the same phenomena in Iran and the majority of developing countries. The Mega polises of Tehran, Mashhad, Tabriz and others are the results of an inefficient economic development triggered urban-biased and therefore led to the huge rural-urban migration towards the urban fringes where pulls most of the local municipalities' financial resources and con not coined as "American dream". This paper tries to use objective indicators to analysis the unbalanced growth of Babolsar city which now threatened the quality of life and its environment. The research applied Entropy method and density to define the city form and also tests of T and F accompanied with SPSS to measure environmental quality.

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The main hypotheses of the research are based as on two alternatives: First, it seems that there is a meaningful relation between the city imbalanced growth and the quality of life. Second, it seems that the quality of life in neighborhoods is lower in unbalanced areas of the city compared to the balanced ones

Methodology

The research has employed two techniques of Shannon Entropy and density for determining the level of city dispersion. The main reason for application of these two models has been the scientific acceptance and the low error coefficient and also their correspondence with the results from the field. To measure the quality of life 320 samples was distributed in the sixteen neighborhoods of the city which the numbers was obtained by using Cochran method. SPSS was used to analysis obtained results, and for approving the hypotheses Pearson correlation coefficient, T and F tests were applied.

Results and Discussion

The results revealed that the final limit of entropy shown 1.28 and since the Entropy of Babolsar calculated about 1.0469 and with respect to the Shannon Entropy which has value from 0 to 1 and with regard to the proportion of sprawl growth. The city has experienced a sprawl growth and became less dense in 2006. One of the methods which could help to identify the pattern of city form from density is the level of density in the different regions of the city. Therefore the city map was drawn using the statistical records of 2006 national census. The density of the city was classified in four categories which the research used this classification for the present study. With respect to the city density in 2006 the city place as low density urban place. The peripheral areas expanded towards the fertile agricultural lands. The four classes are: 1) very low density: 1- 50 person per hectare 2) low density with 52 to 100 person per hectare 3) moderate density with 101 to 200 person per hectare 4) High density with +201 person per hectare. On the base of this study, city density is lower in peripheral neighborhoods of the city compared to the internal neighborhoods which mirrors the sprawl growth of the city. The results showed that the first hypothecis is approved or in other words there is a relation between imbalanced growth of the city and the aspects of quality of life. And T test indicated that is significant in Alfa 0.05 level with $t=4830$, and the obtained means of two groups showed significant difference, so the zero hypothesis would be rejected. It means that the quality of life is higher in the internal neighborhoods of the city compared to the peripheral areas.

Conclusion

The study evaluated the town by evaluating multi indicators of townscape, air quality, water, green space per capita and texture reading which evolved in a periodical range of 90 years (1st Pahlavi) and as Entropy showed it has expanded in a dispersed form in post revolutionary eras. Based on analyzing the aspects of environmental quality of life in neighborhoods, the results of T and F rest showed that the quality of life is much lower in peripheral regions where the city

fabric expanded towards the agricultural lands. Such condition alerts the imbalanced growth of the city which is in contradiction with the general urban policies of the country in the North of Iran.

Keywords: *Imbalanced Growth, Sprawl, Environmental Quality of Life, Babolsar.*

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