Explanation of Dispersion and Compactness of Urban Form In Amol City, Considering Sustainable Urban Form

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Extended Abstract

Introduction
Rapid increase of the urban population hase caused problems, especially achieving sustainable development goals. Some of the problems are: lack of spatial balance, vulnerability in the price of land and housing, social polarization, environmental pollution, use of extra energy, unplanned development, increasing levels of spending for urban infrastructure, constructing fertile agricultural land, and increasing the urban periphery space. With the increase of environmental problems in the cities, and created crisis, attempts have been made to define the urban growth and urban development patterns and its relation to sustainable urban form. The question about sustainable urban form has been raised, and many researchers have tried to answer this. Some of the urban planners have supported the dispersion of the urban population and some are against this idea, and believe in concentration of urban population. This later group believe that problems of cities can be solved through increasing the density of population in urban areas and close concentration of urban land uses. A many different answer to the question of best urban form, the idea of compact city has received a lot of support and consideration, spatially in relation with the principles of sustainable development. Every city is experiencing its different growth pattern and every growth pattern leads to different
consequences and results. Therefore, defining the precise and complete patterns of urban growth, explaining their existence, determining their strength and weakness can pave the path toward compact city and sustainable urban form. In our country, the endogenous factors of urban growth and organic growth have related slow physical development, but the base of development and growth can exogenous factors and oil revenues have created speculation of land. So, some internal sections of city are saved for speculation. The reduction of revenues received by municipalities and relying on unstable revenues such selling density rights have occurred.

Methodology
The research method is descriptive analytic and trend study. This research is an attempt to explain the trend. Considering the principles of sustainable development and compact growth, this research is an attempt to explain the pattern of physical growth in Amol city and its new trend toward compactness during the past two decades. Different statistical methods are used to analyze the trend.

Results and Discussion
For many decades, Amol city has experienced rapid growth of population and land area. But in recent decade, this growth has reduced and there is a trend toward compactness of growth.

The major reason for this event is urban management policies in recent years. Recent policies encourage vertical development. The floor area ratio has increased in recent years after 1996. The floor area ratio has increased from 0.65 in 1986 to 2.71 in 1996. So, the ratio of floor area to land area has increased. With the increase in the floor area for housing units, the urban fabric is more compact. There is a direct association between the land area and floor area, meaning that the larger land areas accommodate higher floor areas.

Conclusion
The results of this research show that Amol city has experienced dispersed and urban sprawl event. But during the past decade, a reduction in rate of dispersion has been experienced. Therefore, a concentration of population in inner parts of city has occurred and a compact form has appeared. Before considering the sustainable development principles, the common pattern for growth was dispersed pattern. The negative consequences of urban sprawl, ended to emphasize on urban intensification as a pattern for sustainable development.

Keywords: Urban development, Urban form, Sustainable urban form, Dispersed form, Compact form.