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## **Analysis of Sabzevar Physical-Spatial Development Pattern**

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### **Abstract:**

The recognition of physical-spatial development patterns of cities is necessary for achieving to urban sustainability. Because, many of scientists believed that a meaningful relation between urban form and urban sustainability exist. With attention to this issue, the purpose of this research is evaluating of Sabzevar physical-spatial development pattern with using quantities models such as size-rank rule, Gini coefficient, relative entropy, geary coefficient, density gradient and correlation analysis. Methodology of research is combination of inductive and apriority methods. The results of this research indicated that during 1993-2006 years, gross population density of Sabzevar very reduced and from 128 per/h received to 76 per/h. this reduction says that in these periods Sabzevar have had

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sprawl. Investigation of size-rank rule represented that during 1921-2006 rate of physical development growth is much more than rate of population growth. Density gradient in sabzevar in 2006 is reducing with distance from city center. It means that in Sabzevar city outskirts is developing. Investigation of Equal distribution grade of population with using Gini and relative entropy coefficient indicated that population distribution in Sabzevar in 2006 rather than 1993 has been equaled. Surveys of agglomeration grade of population with use of geary coefficient shows that distribution of population in Sabzevar city in 1993 has been random agglomeration while in 2006 became sprawl. The use of Holdern model indicates that significant part of sprawl in Sabzevar city has been occurred during 2003-2006 years. In these years, 30 percent of urban physical growth derives population growth and 70 percent of this growth derives sprawl and horizontal expansion and finally, Correlation analysis indicates that between gross population density and variables such as statistic district area, literacy, family dimension and family in residential unit had existed significant relations. Pay attention to this issue that during 1993-2006 years, sprawl has been one of the important features of physical development Sabzevar, it is necessary to urban Manager's restrict factors that create sprawl and horizontal expansion in Sabzevar city.

**Keywords:** Urban Form, Physical Development, Urban Sustainability, Population Density, Sprawl.