

Sprawl of Babol city and structural-functional changes of the surrounding areas (A case study of Siakalamahaleh)

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Abstract

Sprawl is being considered as one form of physical expansion which introduced into the literature of urban planning and management of Iran in the last decades. Some of the Iranian cities experienced this type of expansion during their accelerated growth period. These cities have been dealing with many problems including unplanned planning development, creation of informal settlement, great fluctuation regarding land and housing prices, increase in costs of infrastructures as well as urban services, converting agricultural lands into urban uses, high rate of energy consumption and its pollution consequences. This study aims to investigate Babol city expansion between 1957-2017 and its role on structural-functional changes in the village of Siakalamahaleh. This study suggests that Babol's area has been continuously increasing during the study period and changed the structural-functional features of the village of Siakalamahaleh.

Introduction

It is argued that undeveloped and developed countries are experiencing different metropolitan growth consequences. In industrial countries spillover population are trying to move away from overcrowded metropolitan center to more secure and decent neighborhoods. At the same time, some economic activities due to their spatial and locational limitations are moving toward peripheries. Therefore, within the industrial metropolises, migration acts in a reverse manner, that is population are moving toward rural peripheries. However, in undeveloped countries, spatial non-continuity and overall centralization have led to in balanced metropolitan growth and expansion which in turn resulted in social, economic, physical and spatial disorders and irregularities. This would paved the way for rural annexation as well as spatial disorders and metamorphosis (saeadi & sabet, 2011:149).

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Materials and Methods

Statistical society corresponds to Babol city and Siahkolamahallah between 1956-2016 time periods. Needed information were obtained via field works and documentary procedure. Holdren quantitative model was applied for computation of degree of sprawl. Holdren applied this model in order to determine urban horizontal expansion rate as well as population growth in 1991. Using this model, one could determine degree and rate of urban growth due to population growth as opposed to sprawl. Holdren used per capita gross land via 14 equations (Hekmatnia & Mousavi, 2006:131-133). In addition, Geography information system was applied in order to draw maps and to analyze rate, direction, and form of sprawl in Babol. Babol's expansion pattern and its spatial variations were investigated by using social, economic, political and physical criterion as well as application of 15 indicators.

Discussion and Results

The share and role of population and sprawl with regard to increase in Babol's area during these time period was different. In general, based on Holdren model computation, 74% of the increase in the area was associated with population growth as opposed to 26 percent resulted from sprawl. This, in turn resulted in decrease in gross population density and increase in gross per capita of urban land use and horizontal expansion and intrusion. Babol's area continuously experienced some increases between 1956-2016. Its area showed 11 folds increase. It reaches from 269 acres in 1956 to 3036 acres in 2016. This situation is predominately associated with intrusion over rural areas and rural annexation. Location wise, these are located in the vicinity of the main inter-urban arteries, therefore they are well exposed to annexation process. These villages are considered as part of some neighborhoods while preserving their rural physical characteristics.

Conclusions

Distribution of the city of Babol by the expansion of the city on the periphery of the land, including agricultural lands and pastures, the integration of villages and lands surrounding them, creating residential and institutional settlements in the periphery, economic, social, political and physical changes of villages, etc. and The creation of informal settlements, such as the Imam Khomeini, Western Kathi, Oriental and Gohardasht settlements, has taken place. The construction of the residential towns and public housing around Babol and population movement from central parts into peripheries along with lack of physical barriers all contributed to sprawl development. In addition, Babol's expansion was taken place along northern and southern axis including Babol-Babolsar in north and Babol-Babolkenar and Band pay in southern direction. Furthermore, part of the city expansion followed eastern-western direction. As such, most of the annexed villages (Including the Siahkolamahalleh) were located along those mentioned arteries and roads.

Keywords: Urban sprawl, Spatial changes, Babol, periphery villages, Siakolamahaleh

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