

Determinations of Urban Political Ecology: The Distribution Pattern Canopy Cover of Tree and Spatial inequality in Tehran

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Extended abstract

1-Introduction

Inequality of green space distribution is a type of social production which by creating uneven ecological conditions in a feedback cycle plays its role on the quality of environment and intensification of imbalances inside the urban living environment. Most of the studies conducted so far have focused on the development or distribution of public green space but the truth is that public green spaces have not been the only source of urban metabolism (from the viewpoint of green space function) and a great part of the role of urban green space is undertaken by private green spaces. “What effect do private greeneries located in

residential areas have on the quality of citizens’ life or what kind of reality is asserted by their development and distribution pattern in the urban life of today’s modern society” were issues of less attention. Thus, considering the interconnection of green space production and distribution pattern (public and private) with the rest of natural, social, economic and fabric conditions, the present research benefits from NDVI (Normalized Difference Vegetation Index) as a dependent variable which has been influenced by ecological, social, fabric and economic variables and has analyzed them to identify effective factors in Tehran inequality urban green space. The present article theoretically makes use of urban political ecology approach and is considered a correlational research. The required data have been prepared and analyzed by some types of software such as ArcGIS, ArcView, IDRISI, ERDAS Imagine, and SPSS. In conducting this research some techniques have been used such as; “Average Distance to Nearest Neighbor”, “Square Analysis”,

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“Correlational Analysis and Factor Analysis”.

2-Theoretical basis

The present study is theoretically based on an urban political ecology approach. Urban components including green space from urban political ecological perspective are considered a kind of social production whose imagination and change are influenced by political economy, dominant pattern of public and private ownership in society (Heynen, Perkins and Roy, 2006: 3). The aforementioned perspective clearly states that urban material conditions which includes urban environment too are controlled and manipulated by the elite and city experts to serve their interests. This issue is conducive to make some of the urban social groups marginalized and deprived from natural riches and urban environmental artifacts. As a result, the quality of urban environment (physically and socially) increases in some neighborhoods and decreases in others (Heynen, Kaika and Swyngedouw, 2006: 1-15). Since unequal greenery distribution with creating imbalanced ecological conditions often plays its role in a feedback cycle on environment quality and intensification of inequalities within urban life environment, the present study uses pattern of canopy distribution located in areas of residential uses (private and public) to reveal social, economic and spatial inequalities in Tehran.

3- Discussion

The results of this research in relation to Tehran city confirm the determining position of urban political ecology in forming distribution pattern and density of trees canopy located in areas of Tehran. This is a subject which is confirmed by studies

conducted on urban green space (including public and private) in the cities such as San Diego, Toronto (by Perkins, Heynen and Wilson 2004, Scobedo and colleagues 2005, Heynen, Perkins and Roy 2006 and Conway, Shakeel and Atallah 2011). Also, so far many researchers on the urban issues of Tehran city (such as Madanipoor 2005, Horkad 2009) have emphasized the conformity of natural topography over social topography in Tehran. The result of this attempt, while confirming aforementioned perspectives, indicated that the distribution pattern of canopy density in residential areas (private urban green space) has a greater capability to portray social classifications and environmental quality and as a result spatial inequalities in Tehran city due to the fact that their production, distribution and density are performed in relation to different natural, social, economic and fabric-spatial factors.

4- Conclusion

The attained results from the analysis of canopy density dispersion in Tehran residential areas indicated that areas with thick and very thick tree-coverage density possess quite clustered patterns and geographically are almost conformed to the northern urban regions which have a more desirable environmental quality. Also, the areas with average density have an almost scattered pattern and geographically show more development in the northern half of Tehran. Areas with low density or without tree coverage at all have also scattered patterns. Nevertheless, with respect to the concentration of residential blocks without tree coverage, their spatial dispersion pattern have changed to quite scattered patterns which are geographically conformed to the areas with thick density population, problematic, old and low environmental

quality tissues. According to the results obtained from Rotated Component Matrix of factor analysis, five main components which indicate spatial inequality in Tehran are: economical – ecological factors, settlement pattern of social classes and residential quality factors, structure quality and city texture, family density in residential units and density and centralization of population and contaminant uses.

5- Suggestions

In a society like Iran, whose almost 70 percent population are urban, it is vital to schedule justly to decrease social and economic inequalities and their bad functional outcomes in cities. This subject is of particular importance in relation to Tehran and its urban collection which accommodates 19 percent of the total country's population and which plays an important role in political stability of Iran. After the victory of Islamic revolution the economic powers had fewer facilities to show luxurious and lavish styles and this was because they had a cultural and fair approach. As a result, the dimensions of social inequality are not much visible in the society. Therefore, with respect to difficulties of access to sources of documented information (such as families' income and their financial and non- financial facilities), it is suggested to seriously pay attention to technology development in using variables and spatial indicators such as the use of Normalized Vegetation Index (NDVI) in the present article which has an interactive relationship with social and economic conditions to measure spatial inequality in cities and metropolises.

Key words: Urban green space, urban political ecology, Spatial Inequality, NDVI (Normalized Difference Vegetation Index).

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