

Zonation of rural areas at risk of flooding using HEC-RAS model in the GIS environment: Case study of Nezāmābad Village (Miāndoāb City, West Azarbāijān Province)

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Abstract

The development of rural areas in the riverbank, bed, and the margins of floodplains without recognition and attention to the hydrological and dynamic condition of the river and upstream parts of the field which could lead to the increase in flooding and life, financial and infrastructure loses, confronts the development with ignorance. Hence, the flood zonation mapping which has many applications in the management of floodplains is important. In the present study, with regard to the climate/local conditions and the cross-section and topography of the river vicinity and floodplain, rainfall duration and the flooding return period of 5, 10, 25, 50 and 100 years has been determined in order to zone the flood hazard and to determine the risk factor of rural areas of Nezāmābād and the neighboring rural areas of Miāndoāb city in the river path. To do so, the HEC-RAS and GIS software was used to analyze data such as digital elevation model (DEM), river cross-sections, and longitudinal sections, with an average slope of each section. The results, while confirming the efficiency of the model showed that the trend of increase in losses and flood levels during the return periods of 5 to 25 years was faster than the return periods of 25 to 100 years, and a large part of the damage to flood plain areas would be for those below 25 years.

Keywords: Flood Zonation, Return Period, HEC-RAS-GIS Model, Nezāmābad Village.

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The relationship between spatial justice and political participation: Case study of Iran's south coastal region

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Abstract

In order to investigate the level of balanced development and progress in different scales, the spatial justice as a new field of study in the political Geographical studies is influenced by several factors and elements, some of which have infra-structure nature and function and others have super-structure and complementary nature and function. One of the infra-structure elements is getting a share of power (making decision and deciding) and influencing its origins which could be in some way the determinant of the other fields of spatial justice. In modern societies, getting a share of power is manifested literally, within the framework of democratic processes and through the political participation path. Hence, the study of political participation and its position in the pursuit of spatial justice is one of the requirements for the organization and political management of the national space. The importance of the country's south coastal region from the viewpoint of the geo-political and geo-strategic advantages increases the necessity of studying and analyzing the relationship between political participation and spatial justice. So, this research tried to analyze the relationship between spatial justice and political participation in south coastal region using descriptive and analytical method and relying on library resources. The results indicated that the country's south coastal region has a heterogeneous and asymmetric distribution according to the spatial justice index, in a way that Booshehr Province is in a level higher than national average and Khoozestān Province is almost in the same line with the national average. In addition, Sīstān-o-Baloochestān and Hormozgān Provinces are in levels lower than national average.

Keywords: Political Participation - Spatial Justice - Spatial Injustice, South Beach of Iran.

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The role of spatial forms in the reproduction of social capital in coastal cities with an emphasis on land use (Case study of Bābolsar city)

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Abstract

From the last decade of the twentieth century to the present time, the idea of reproducing social processes by urban spatial forms or physical design has been presented and discussed as a response to various issues arising from the global trend of growing urbanization among the researchers of spatial sciences. It is more exacerbated in coastal cities as the most dynamic and productive areas faced the highest rate of urbanization on the one hand and consequently encounter with the emerging and increasing environmental, economic and social issues arising from this process, on the other hand. Issues such as the decline of social networks due to the socioeconomic segregation, social inequality and the resulting lack of mutual trust and the reduction of social and civil participation resulting from lack of sense of place in coastal cities have led these cities to the decline of social capital. The purpose of this study was to measure and evaluate the impact of mixed land use as a spatial form on social capital in the coastal city of Bābolsar. It was an analytical-descriptive study, and the research sample consisted of 382 citizens of Bābolsar coastal city. The spatial distribution of social capital index has been calculated using VIKOR method and it has been compared with the spatial distribution pattern of land uses in Bābolsar. Findings indicated that with the highest social capital rates, the main nuclei and the west of Bābolrood neighborhoods show the positive and moderate correlation with Frank mixed land use index in the city of Bābolsar. Hence, the increase in mixed land use by promoting social interactions and spatial equality may increase the social capital of the coastal city of Bābolsar.

Keywords: Mixed Land Use, Social Capital, Coastal City, Bābolsar.

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Spatial consequences of converting the villages to the towns in Caspian region: Case study of Guilan

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Abstract

Converting the rural settlements into the city is considered as one of the important policies in the spatial planning of the country. During the last three decades, as rural areas turned into cities, the number and urban population of the country increased sharply. This process has significant spatial and economic implications in coastal provinces of the Caspian region, especially Guilan, which has a dense settled and populated context. And for this reason, from the mid 1360s till the early 1390s, the number of cities of Guilan province increased from 31 cities to 52 ones. Most of these new towns are rural centers located in the middle space of the cities which are located in the middle of the province. A few of them have been formed in the remote mountainous areas of south of Guilan. Hence, in this research using spatial analysis methods and models, the consequences of the converting these rural settlements into the cities in the urban network and spatial organization of Guilan province have been investigated. The result of the research using the methods of the closest distance, pull coefficient and entropy showed that although the conversion of rural centers into the cities at distances between the larger cities filled the gap of urban areas in the urban hierarchy, and gradually regularized the urban and rural system of the region, however, many of these centers did not have much useful function in their rural influence, after they became a city. Therefore, the implementation of the rural-to-town change policy has not fully met the goals for the spatial development programs. In the future, in order to transform other rural centers into the cities, the spatial and functional implications of the project should be well measured.

Keywords: Rural Centers, Small Towns, Converting Village to City, Guilan Province.

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Determination of the role of the Cāspian Sea coast human communities in establishing a legal regime

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Abstract

Cāspian Sea is an enclosed one and the determination of its legal regime should be made by agreement between the coastal states in accordance with the Convention on the Law of the Sea. The determination of the legal regime for this water zone was introduced after the collapse of the Soviet Union. However, there has been no agreement on how to establish a legal regime between the coastal states, despite the fact that many years has passed. This could be due to several reasons. One reason could be the role of the diversity of the human communities in determining the legal regime of this sea. The establishment of the legal regime in the Cāspian Sea is affected by variables such as the racial and ethnic groups, and historical and religious differences, due to the diversity and dispersion of the human communities, and the combined and spatial disorientation of the population. The people of these countries are dependent on the sea since the past, which creates emotional connections and interconnections between them and the sea. So, they interfere in the negotiations of the states, and somehow they consider themselves as the right owner. This fact forces the Cāspian states to be cautious in the negotiations to be able to satisfy the people and fulfill their demands. The diversity of peoples and the multiplicity of their demands lead to a delay in the establishment of a legal regime. The present study was a descriptive-analytical research which used library resources and referred to valid websites. The result of this research indicated that in order to achieve a sustainable legal regime in the Cāspian Sea, the linking agents between the ethnic groups and the coastal nations around the Cāspian Sea should be strengthened to revive some of their cultures and traditions, and to bring about convergence.

Keywords: Cāspian Sea, Legal Regime, Human Communities, Coastal Countries.

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Spatial analysis of the urban system in the South Coastal Region of Iran

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Abstract

Today, adjacent areas of coastal regions are faced with the growth and concentration of urban population and widespread economic and social activities that highlight the role of urban systems in the coastal regions. The Southern Coast of Iran in the Persian Gulf borders has experienced extensive evolution during the past 60 years. This paper aimed to study the evolution of the urban system of the south coastal region to determine its balance. It was a descriptive-analytical research. The statistical basis of the data was the results of general population and housing censuses in the past 8 years. The cities in the related region were classified. Then, using different models including the primate city index such as two cities, Ginsberg, Mehta, Mamaw and al-Wasabi, Mousavi's dominance; and the concentration indices like Herfindal, Henderson and finally equilibrium indices including entropy, coefficient of variation and rank-size rule, the urban system of the related region has been investigated. The results of urban primate and concentration indices showed that urban primate and concentration rates have decreased in all periods, except for the year 1355. The equilibrium indices also revealed that there has been imbalance in the spatial distribution of population in urban system of the region during all periods. The results of the rank-size index also indicated a relatively large difference between the actual population and the desirable population and also the domination of the prime city on the urban system of the region from 1335 to 1395. The two main reasons for the imbalance in the urban system included the rural-urban migration and the conversion of villages into urban places, regardless of their population. So, the regional spatial planning strategies have been presented in order to strengthen the economy and develop job opportunities in rural areas. Also, the amendment of the village-to-city conversion law, considering the minimum population criterion for the transformation of a village into an urban place has been suggested.

Keywords: Spatial Analysis, Urban System, Concentration, Balance, South Coast.

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