SDSS of Environmental Management and Planning to Analyze the Land Suitability and Site Selection for Petrochemical Industry of Lorestan

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Abstract

The petrochemical industry makes environmental impact and land suitability assessment is important for the petrochemical industry. The objective of this research is to develop a model to analyze the land suitability and site selection for petrochemical industry through a spatial-geographical study and environmental planning and management approach. To this purpose, the land suitability and site selection were performed using the PROMETHEE II and ELECTERE III methods in combination with GIS. These methods were used to undertake the study objective in three stages. Firstly, a review of the literature led to the formulation of analytic land suitability importance for site selection of petrochemical industry. Secondly, the major factors influencing the identification of suitable locations for petrochemical industry were identified using experts. The outranking methods were used to determine final zoning map. The final zoning map shows about 16% (45.207 Km^2) by PROMETHEE II and 10% (29.207 Km^2) by ELECTERE III is suitable for development of petrochemical industry. Sensitivity analysis shows suitable area is consistent with each of input factors in the model. So, this model is suitable to analyze land suitability and site selection for petrochemical industry**.**

Keywords

Environmental management and planning, Land suitability assessment, Lorestan province, Outranking method, Petrochemical industry.

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Planning Approach to Land Use Change Modeling Using Satellite Images Several Times Behbahan City

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Abstract

Study of changes in the past and the destruction of resources and the feasibility and expected changes in the coming years can be planning and optimal use of resources and controlling non-fundamental changes in the future is an important step. The present study aimed to model the Behbahan using LCM city land use changes and Markov chain was used. In this regard, land use change detection using satellite images Landsat, ASTER and ETM^+ (Image 2000) and OLI (Image 2014) was performed. Using logistic regression modeling and 6 variable power transmission, digital elevation models, slope, away from residential areas, the distance of agricultural, away from the road map and Evidence Likelihood was performed. For maps of the distance from residential areas, agricultural lands and away from the road distance analysis Euclidean distance and to evaluate the correlation between the independent variables and the dependent variable Cramer's correlation coefficient was used. The ROC indicator used to assess the validity of the model. Comparison of modeled area map with the map of 2014 shows the residential areas and agricultural land continues to be a growing trend will continue. As the residential area of 3157 hectares, 4180 hectares in 2014 to 15030 hectares to 20778 hectares of agricultural land increased. But the destruction of rangeland has not only improved, but the intensity is much higher than the last.

Keywords

Land use planning, LCM. Logistic regression, Markov chain, Modeling.

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Calculation of Ecological Conformity Urban of Development in Gorgan

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Abstract

Today, with the rapid growth of urban population and as a result, rapid and unbridled urbanization of human societies have been caused some issues. In Gorgan, an increase in level of urban settlements is done regardless to the capabilities and limitations of land and ecological potential of urban development. In this study, it is performed to evaluate and conform to urban development, regard to ecological capability to protect the environmental ability of Grogan. In this case, the multi-criteria assessment approach with weighted linear combination of the GIS is performed to evaluate the ecological capability of Gorgan for conformity to urban development in different years based on the criteria. Then, there is a comparison between final map of capability and current development; moreover, the rate of conformity in different years is calculated. It is illustrated that the ecological conformity had been decrease gradually from 1987 to 2013, which causes hazardous effects on the environment that seems to be still remain for years. Therefore, reduction of the ecological noncompliance should be considered by relevant authorities. The outputs could be used for urban planners to observe the environmental principles to promote existing conditions.

Keywords

Analytic Hierarchy Process, Ecological capability evaluation, Ecological conformity, weighted linear combination method.

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Providing a Methodological Model for the Application of Assumption Based Planning in Regional Development Studies

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Abstract

The planning literature has passed the prediction, forecasting and exploration of future concepts and has reached to futurology and foresight. Regional development planning is not exempt from this and needs a futuristic approach in order to be used after being planned. Identifying the future uncertainties and the underlying assumptions in the regional development planning by which the long-term plans have been established, is one of the most important main fields in the identification of problems and facing challenges of development documents. Post-planning also deals with the success or failure evaluation of the developed policy and planning in the future time horizon. Assumption Based Planning (ABP) is one of the post-planning methods, which could be used in preparing stable and compatible programs. This research is a combination of documentary and surveying methods in terms of the research type and is analytical and exploratory based on the new methods of futurology science in terms of the research nature which is conducted by a combination of qualitative and quantitative models. Data collection methods and techniques Delphi questionnaire was used and questionnaires are experts in developing and development issues surrounding region during two separate questionnaires have been completed. In this way, the correlation between each strategy uncertainty with mining experts from both questioners (strategies, inventory uncertainty) is calculated. The results show that areas are considered the most vulnerable strategies. Analysis of the results indicates that utilizing the ABP could be implemented in the regional development planning, which helps planners to have a consensus and commitment to the output. Thus, weaknesses and waivers existing in the long-term regional development planning could be identified and reviewed by utilizing the ABP.

Keywords

Assumption Based Planning, Foresight, Post-Planning, Regional Development Planning.

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Urban Environmental Quality Assessment by Using Composite Index Model Case Study (Tehran Metropolitan Area)

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Abstract

Quantifying the performance of national policies and programs in different economic, social, and environmental fields has always been a major concern of planners, politicians and researchers worldwide. According to UN statistics, more than 60% of the world population will live in urban areas by the year 2030 Despite occupying only 2% of the total land area on Earth, more than half the world's population is living in cities. In this study, a systems approach was adopted to develop a composite index in order to assess the potential of a city to become sustainable. The index is composed of 10 components containing a total number of 19 indicators. According to which, the 22 districts of Tehran City were compared in terms of sustainability of urban environment quality. The obtained results indicated that the Districts 1, 2 and 3 are in ideal sustainability conditions. These areas are among prosperous places of the city. About 59.09% of all districts were below the average. The Districts 18 and 19 with the values of 0.21 and 0.25 remain in critical condition.

Keywords

Indexing, Sustainable urban development, Ssustainability indicators, Ssustainability indexing model, Urban.

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Analysis of Spatial Matrix of Regional Development Gap in Markazi Province

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Abstract

Today, unequal regional development is concerned of many developing countries, such as Iran. Centralization, inequality in the distribution of population, activity and natural and human resources and inequality between the regions are including factors and obstacles to regional development in the country. Study the undeveloped cities and areas to set priorities for planning and eliminate the regional development gap is the first step in the process of decision-making for deprivation deprived areas. The regional comprehensive develop approach need economic, social and environmental factors base on human and environment conditions according to each region. The aim of this study is to identify undeveloped county and analysis to investigate the causes of inequalities (gap) in the Makazi counties, according to 14 indicators of economic, social, health and cultural. The research is based on objective, practical research and method of paper is descriptive-analytical. Collecting method for data (1390) is a library (documentary method). In this study for analysis and ranking of counties is used multi-criteria decision method. Based on the results of the models HURWITZ, Maxi max, Maxi min, ELECTRE and show it on a map in GIS; Arak and Saveh are developed, Sazand, Delijan and Khomain are developing and Tafresh, Mhalat, Zarandiyeh, Ashtian and Komijan are developed counties. In general, in the Markazi province formed two separate regions. One is in the southern part of the province (Markazi) and the other in the northern part of the province of Arak (Saveh).

Keywords

ELECTRE, HURWITZ, Markazi Province Maxi max, Maxi min, Regional Development Gap.

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