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Evaluation of urban public transportation efficiency Case study: Bus Transit of Yazd, Iran

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Abstract

The cities expansion and urban population growth and the need to meet mobility place more demands on use of automobile that increased and brought forward traffic congestion in urban areas. This in turn caused many environmental challenges such as noise and air pollutions. Because of this, urban authorities introduced public transportation as a key option towards balanced system of urban transportation. Expansion dispersed the city of Yazd and Development of new towns in the west, south, and north of the city, it is experiencing high volume of daily trips and commuting between these new towns and downtown Yazd. Bus plays a major role in Yazd transit since all major routes are served by bus-based modes of transportation. A descriptive and analytic approach was applied to evaluate the efficiency of lines numbers 11, 55 and 62 that contained high volume of daily trips. The evaluation is based on the TCRP100 Report particularly three criteria of transit accessibility and comfort and convenience. For transit accessibility, three parameters were considered including frequency of services, area of service coverage, hours of services. For comfort and convenience of bus system, total travel time of bus and private vehicle was compared. These criteria can measure bus transit performance and quality of services. The findings show that the time of travel by bus is twice of private vehicles. For this reason, citizens usually prefer to use private cars in spite of bus within the study area.

Keywords: public transportation efficiency, quality of bus service, transit accessibility, public transportation system, Yazd bus lines

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Estimating recreational carrying capacity of Qom urban parks

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Abstract

Due to the increasing population and demands for recreational resources, estimating the caring capacity of such resources and sustainable use of these recourses is very important to human societies. The current paper investigated the recreational carrying capacity of four urban parks of Qom city including, Hashemi, Nabovat, Fadak, and Alavi park. The required data collected via questionnaire and climatic data from meteorology station of Qom. Finally, the physical, real and effective carrying capacity of the four selected parks was calculated. The result showed that Alavi had the highest and Nabovat the lowest recreational carrying capacity and management capacities play an important role in the estimated value of recreational carrying capacity. Results also showed that demand level is less than carrying capacity in winter and autumn seasons and weekdays. It increases in spring and summery seasons, weekend and holydays and after sunset and it exceeds the carrying capacity. So given the peak time of visit, the park's capacity must be tolerate this times and this issue should be considered in planning and management of parks. Therefore, park managers need to plan carefully for equal distribution of users in different seasons and times to reduce pressure on park resources and facilities.

Key words: outdoor recreation, urban park, Physical carrying capacity, Real carrying capacity, Effective carrying capacity

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Modeling the Required Area for Agricultural Products Using Multi-Objective Programming Method and GIS

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Abstract

One of the important stages of spatial planning is determination of required area (demand) for different land use types. In order to achieve that, political and administrative divisions are generally considered as demand units and the area required per unit is calculated using statistical regression methods, socio-economic models or multi-objective programming methods. In this paper, considering political and administrative divisions as well as capabilities and potentials of the study area, homogeneous administrative-environmental units were defined as smaller demand units. After that, the demand for agricultural products calculated using multi-objective programming method that includes two objectives, five constraints and twenty-two variables. The developed model implemented for estimating the demand for agricultural products for part of Isfahan province for the year 1394, using GAMS 23.7 and ArcGIS 10. In order to evaluate the demand unit, homogeneous administrative-environmental units as a type of disaggregated demand unit were compared with two aggregated demand units including rural district and geographical coverage of the population points. The obtained results indicated higher priority of disaggregated units than aggregated ones and showed that in order to more accurately determine the demand of land use types, there is a need to use disaggregated demand units with considering capabilities and potentials of the study area.

Key Words: Demand Determination, Land Suitability, Land use, Weighted goal programming, Isfahan

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Olive cultivation location using climate and land parameters Analytic Hierarchy Process: A Case Study in Fars Province

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Abstract

In this study, the parameters for locating favorable climate and land cultivated olive tree that in clues elements of total annual precipitation, The minimum temperature of the coldest month (January) with a duration period of 23years (2008-1986) in the land of the parameters slope, aspect and elevation extraction from digital elevation models for Slope and elevation extraction from digital elevation model was used for the study. To examine the elements of the11stationswithin and adjacent toStation4was used as the support for climate zoning. (Climate-land) olive cultivation, classification of information layers and the weight of each zone was calculated. Finally, on cross-layer information sharing and value-weighted classification method. By sub serve the final map of the potential climate-land suitable for olive cultivation in the province were taken show. Final results from this study indicate the fact that the elements of each of the five elements of olive cultivation varied climate and annual rainfall, degree-days of growth, annual temperature, minimum temperature of the coldest month of the year (January) and relative weighting of scientific expertise and resources in a more effective contribution to the cultivation of olive trees and the ability to show more. Also, the weighting adjustment layers with each layer allowing for the importance of culture in the process of GIS, to identify are as favorable for the cultivation of this valuable tree in the garden has been detected.

Keyword: location, climatic factors-land, olive cultivation, GIS, province

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Comparison of the performace of different Neural Networks Algorithm Functions in Simulation of Seasonal precipitation case study: Selected stations of khuzestan province

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Abstract

The precipitation is one of the main components of hydrology cycle. This complex phenomenon relates to several climatological factors. Over the last decades, Artificial Neural Networks (ANNs) have shown a considerable ability for modeling complex and nonlinear systems. The monthly rainfall data of three meteorological stations in Khuzestan province for 48 years, from 1961 to 2008 were used. Then, using these values as target outputs, various networks with different structures were defined and train. At last, the capability of the network for estimating precipitation was studied using a part of data which were not used for training the network. In present work, RBF and MLP networks with some changes in number of neurons and number of middle layers and MOM, LM, CG training algorithms were used to predict the seasonal rainfall. The results showed that for Ahvaz station, RBF network with 6-4-1 topology and LM learning have the highest correlation coefficient value, 0.96 and MSE had the lowest one, 0.044. For Abadan station, RBF network with 6-6-7-1 topology and LM learning had the highest value, both with 0.92 and MSE had the lowest one, 0.062. For Dezful station, MLP network with 6-3-4-1 topology and LM learning, both with 0.94, had the highest and MSE had the lowest value, 0.034.

Key words: The Artificial neural networks, Seasonal Rainfall, Water Resource, Khuzestan Province.

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Investigate the effect of physical identity on social solidarity Case Study:Tehran Evin Neighborhood

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From conceptual point of view, body identity is synonym with terms such as “personality” and “place sensation”. These are connected to the area, residence and residents, beliefs, the way of living, goals, culture, wisdom and they all are not separable. The main goal of this research is the measurement of body identity of even shahr of Tehran dependence with respect to the level of social integrity in the aforementioned area. This research is a kind of descriptive-analytical survey method with a sample collection of 95 individuals. Even area with a rich history, more than thousand years and genion civilization in a large city environment under specific condition, its body identity and level of habitation dependence has been changed. The measurement of dependence for body identity and social integrity has been conducted using T-test and Spearmen test. The results show that decreasing of body identity in even area and subsequently disruption and indifference social relationship in area integration. Therefore there is a close relationship between two variables, body identity and social integrity under investigations

Keywords: Identity, Physical Identity, Place Belongings, Social Solidarity, Even Neighborhood

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Determination of appropriate model in sediment yield estimation by statistical methods- Case study: Babolroud watershed

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Abstract

In this research, PSIAC, MPSIAC, EPM, Fournier, Douglas, Musgrave, Stehlik, Kirkby, Geomorphology and Hydrophysical models in Babolroud watershed were investigated to determine appropriate model to erosion and sediment estimation. Sediment observation data (43 years data of Ghoran talar station) was utilized, to evaluation of used models and determine of appropriate model. In order to evaluation of results, statistical methods such as paired t-test, correlation coefficient, relative difference, BIAS, RE, RMSE were used. Results showed that in 95% confidence level, haven't significant difference between observation data and results of MPSIAC model and also mentioned model with values of relative difference, BIAS, RE and RMSE 7.93, 0.013, 7.35 and 8.63 relatively, and by correlation coefficient equal 0.86 was the best model identified for estimation of sediment yield in Babolroud watershed. Afterward MPSIAC model, Geomorphology model with values of relative difference, correlation coefficient, BIAS, RE and RMSE equal 10.98, 0.78, 0.02, 12.34 and 11.95 relatively and haven't significant difference in 95% confidence level was the second appropriate model to sediment yield estimation.

Keyword: Babolroud watershed, Sediment yield, Observation data, Statistical methods

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Determine the Temporal Calendar Tourism in Lake Gahar Based on Model MEMI

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Abstract

today, the worth of the human basis of tourism planning. A difference in time-where climate in different regions a strong potential for tourism, and the reason is that Iran is a diverse country in the world tourism has five rows. A very beautiful area that has great potential in terms of ecotourism, protected areas Ashtarakoh and consequently Gohar Lake in the province. The level of comfort is influenced by environmental factors and physiological. MEMI model component models the thermal equilibrium thermo - physiological, the three sub-indices PMV, PET, SET formed, the basis of this model based on energy balance equation is based on the human body. In this study, in order to determine the appropriate time for tourism in the Lake Gohar Calendar of air drying temperature climate indices C, amount of cloud in the sky Acta , prevailing wind speed in meters per second, the water vapor pressure Hkto Pascal and relative humidity in percent synoptic stations city Dorud period 1379-1391, and parameters human physiological (age, Genus, weight, height, coverage and activity), as well as situational variables (longitude, latitude and altitude geometric study area), the model MEMI were evaluated. Calculate the comfort index for evaluating the results of this model suggest that PET and PMW output indicators are almost identical, and all year variety of physiological conditions in the lake is ruling Gohar. According to this model, the best time for tourist activity in the months of May, June, September and October are.

Key Words: Tourism, Comfort Bio Climatic, Bio Climate Human, Lake Gahar, Models MEMI

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Application of Spatial autocorrelation techniques in analyzing the heat island of Tehran

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Abstract

In this study, Landsat TM images were used to analyze the spatio-temporal changes of urban heat island of Tehran. The time period of images (13 images) is from 1986 to 2010. First, the mono-window algorithm was utilized to retrieve land surface temperature (LST) from thermal band of Landsat TM images. Then, the global and local spatial autocorrelations are used to quantitatively explore the spatial and temporal evolution of LST in Tehran. Results of global spatial autocorrelation showed that LST field in Tehran has changed to cluster pattern during the study period. In addition, the rate of global spatial autocorrelation increased from 1986 to 2010. According to the results of the global spatial autocorrelation two important remarks were obtained: (1) new thermal clusters were created during the study period. (2) The spatial extent of the old thermal clusters have been increased. To clarify the nature of the clusters (hot or cool cluster) and to explore the spatial variations of these clusters, the local spatial autocorrelation were used. These results confirmed the strengthening and extension of the hot clusters and weakening of the cool clusters. Exploration and Comparison of the spatial distribution of the high-high and low-low points during the study period showed that between 1986 and 2010 due to the degradation of half of the vegetation in the west and southwest of the Tehran (Districts of 18, 19, 21 and 22) cool clusters have been disappeared or fragmentized and new thermal clusters formed. As a result of these changes, urban heat island that was dominant in Mehrabad Airport (District 9) and portions of Districts 21 and 22 in 1986 expanded toward the west and southwest. Also, small thermal cluster have been emerged in the south and west of District 19. Moreover, because of the degradation of orchards in the northern part of Tehran (especially Shemiranat) cool clusters of these Districts have been weakened.

Key word: urban heat island, Tehran, spatio-temporal variations of heat island, the global and local spatial autocorrelation, Moran index.

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The Hierarchy Analysis of Uremia City Zones Based on Urban Sustainable Development Indexes

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Abstract

Nowadays, cities spaces have become scenes replete with social conflicts. And, access too many facilities has replaced social-economical segregation with ethnic racial segregation. Therefore, discussion of spatial inequalities in cities and necessity of establishment of social justice in enjoyment of all citizens from public services have become one serious discussion for urban planners and managers. The purpose of this research is hierarchy analysis of Uremia City Zones based on urban sustainable development indexes. The type of research is applied and research method is descriptive-analytical, and Topsis Model was used for hierarchy analysis of Uremia city zones based on urban sustainable development indexes. Findings show that with base access sustainable development indexes four zone with topsis score (.7970) in one rank, one zone with topsis score (.2805) in two rank, three zone with topsis score (.1829) in three rank and two zone with topsis score (.1295) in four rank have been. It should be noted that access of areas with urban services is not equal, and areas population low in compared with areas population full have access more services, that this show high negative correlation between population and services distribution in between areas is. Therefore, in the field of public services distribution in Uremia City, access justice was not observed. So, attending this problem for solution of Uremia city problems and providing of fields urban sustainable development in this city is necessary.

Key words: Planning, Sustainable Development, Social Justice, Urban Zones, Uremia.

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The Role of Middle Cities in Regional Development, Case study: Iranshahr

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Abstract

At the present time, the tendency of planners in most developing countries shifted towards spatial decentralization, decreasing regional inequality, sustainable development and dichotomy of urban- rural areas. That is why different urbanization strategies have been developed. Strengthening middle cities is considered as one of the most important strategies. The research method is an analytical-descriptive, and the role of Iranshahr as a middle city in the regional development has been evaluated using quantities analysis and model such as rank -size, entropy, extended model, and gravity and location quotient. Findings show that population density and social-economical services in the center of province has been increased. Therefore, the solution to the regional balance development is supporting middle cities and providing them with facilities. Consequently, development and supporting of middle cities can play a significant role in the development of peripheral regions of these cities.

Key words: Middle cities, Regional development, Regional planning, spatial scales, Iranshahr city.

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The role of religious tourism in rural development with emphasis on life quality and social capital Case of study: Ghepchagh County in the township of Miandoab

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Abstract

Today, tourism is one of the largest and most profitable industries in the global economy and as hospitalization for social and economic changes in in many rural areas of developing countries is considered. In addition, the benefit of tourism industry in rural areas not is limited to only an economic benefit, but the benefits can be derived from different angles, such as improving the quality of rural life and social capital be evaluated. The aim of the present study was to examine the role of religious tourism in rural development, with an emphasis on quality of life and social capital. Type of applied research, descriptive research method - analytical and field data collection, and analysis libraries and other information descriptive statistics (mean, standard deviation) and inferential statistics (Friedman test, Wilcoxon test) was conducted. Statistical population of research, includes families in the rural of ghepchagh according to Census 2011, has 963 households and 3562 people are required sample size of 242 households was obtained Cochran formula. Research findings show that religious tourism in the economic, physical, social and physical environment to improve the quality of life in rural households has been studied, The research findings in relation to social capital in rural households case study demonstrates the consistency condition of the households studied had recovered after religious tourism, But the scale of participation and social trust, the surface these dimensions the development of religious tourism has declined.

Keywords: religious tourism, quality of life, social capital, the rural of ghepchagh, social trust

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