

***Design Strategies for the Sustainable Development of Tourism
Iranian Historic- Cultural Villages***

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Abstract

In recent decade, tourism especially in rural area has important role in economic diversification and natural and historical- cultural heritage preservation. The available historical- cultural heritage importance in rural area as a civilization heritage has a special situation and it causes to attract many of tourists to these kind of potential destination. So, take advantages of these potential destination needs to design appropriate strategies and specific areas of the tourism planners and managers. Therefore, this study has aimed to develop strategy for the sustainable development of rural tourism and in this case study tried to answer the fundamental question that what is the appropriate strategy for sustainable tourism development in rural area where has historical -cultural potential? Accordingly, the present study by using of descriptive- analytic and survey methodology and SWOT technique, QSPM assessment matrix, has presented the appropriate strategies in three dimensions of rural community as participators, tourists and administrators in seven historical-cultural rural area. For data analyzing and presenting appropriate and comprehensive strategy for rural tourism development, had been use of SWOC analytic method. According to the obtained results from the sample communities, the defensive strategy had been selected as a central strategy for rural tourism development in case study of rural area.

Keywords: Strategic planning, Sustainable development, Rural tourism, Historical-cultural villages, Iran.

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Hydrogeomorphic Wetlands Classification to Determine Ecological Functions: A Case Study of Choghakhor Wetland

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Abstract

In this study, for potential survey construction of wind power plants in the provinces of Khorasan Razavi and Northern different criteria and sub-criteria have been considered. To become fuzzy criteria are based on expert opinions and investigation done researches, control point and fuzzy function for each of the layers based on their membership gradation range of zero and one was determined in the IDRISI software. Then, according to the importance of integrating information, Analytical Hierarchy Process (AHP) for layers weighting was implemented by Expert choice software. Then, the software ArcGIS, was used to spatial analysis and overlapping layers, and after the analysis of information, Razavi Khorasan and North Khorasan province, in terms of capability the wind power plants building, divided into four levels: excellent, good, fair and poor. Finally, the results indicated that excellent are as for the construction of wind power plants in the study area are located in the southeast of the study area at Torbatjam station with an area exceeding 222565.97 hectares (0.018 percent). In addition, good areas are located around the Taybad and Khaaf, Golmakan, Sarakhs, Roshtkhar, Bardaskan, Neyshaboor, Sabzevar, Bojnurd, Ferdows and Jajarm stations with an area exceeding 1817573.81 hectares (0.17 percent). One can see that renewable energy of wind without any pollution could be utilized by the construction of wind power plants in the replaces ultimately.

Keywords: Classification, Hydrogeomorphic approach, Wetland functions, Hydrodynamic, Geomorphology, Choghakhor Wetland.

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***The Role of North Caspian Sea Pattern (NCP) Teleconnection in
Maximum Temperatures Oscillation in Iran***

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Abstract

The NCP as one of the effective teleconnection patterns in level of 500 hpa have an important role in thermal and hydro-climatic variability in East Mediterranean region. In this study to investigate the correlation between the NCP and maximum temperature fluctuations Iran for a 60 years period (1950-2010) have been studied. Pearson correlation analysis as the main method used in this study show an inverse relationship between maximum temperatures and selected stations and NCP index. This shows decrease of temperature in positive phase of the NCP and rise of temperature in negative phase. In terms of time correlation coefficients were calculated and showed a significant negative correlation between the temperature of stations and the NCP in months of January, February, March and almost direct relation most stations in August. At monthly interval in the monthly correlation between stations with 0.342 were computed in January. Seasonal correlation of shows a significant correlation of maximum temperatures in winter to be -0.212. In terms of period, the results indicate a strong correlation between cold period in most stations and mentioned index. Atmospheric circulation in 500 hpa at positive and negative phases showed in positive phase, settlement of deep trough on the Caspian Sea, Iraq, Turkey and Iran, and also the location of Iran in the eastern part of the trough axis on the other hand, indicates establishment of a ridge on the North Sea and Europe which leads to transfer of cold temperatures of northern Europe and its adjacence of polar section to Iran. But on the negative phase placement of Iran beneath the ridge axis leads to the creation of a

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barotropic atmosphere with weak zonal wind and warm temperatures to Iran. So with blowing warm air from Africa, Arabia and low latitude Iran's temperature rises.

Keywords: Maximum temperature, Teleconnection, NCP, Iran.

***Assessment and Analysis of Spatial Expansion of Tabriz
Metropolitan Using Multi Temporal Satellite Images***

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Abstract

Tabriz metropolitan expansion has caused a large valuable land to go under construction. Therefore, this applied and experimental research was done to achieve goal investigation urban sprawl and land use changes in Tabriz metropolitan using multi temporal satellite images in 27 years period by object-oriented classification technique. This paper also based on historical and causal methodology evaluated spatial development of Tabriz metropolitan in 1984-2011 using multi temporal Landsat 5 and 7 images that obtained from U.S. Geological Survey organization and object oriented image processing techniques. The Results showed that the area of Tabriz metropolitan changed from 7220.34 hectares in 1984 to 22346.82 hectares in 2011. Considerable area of the recent development is located on agricultural and garden land that decreased 6470 hectares of mentioned land use needs management of urban future growth using mass building production, high-rise building production policies(compact city), using Bare land in the urban(infill development), urban development directed in other direction of agricultural land.

Keywords: Land use Changes, Object Oriented Classification, Multi temporal satellite images, Tabriz Metropolitan

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Fuzzy Analysis of Indicators in Assessing the Urban Development Potential (Case Study: Ghaffar Catchment)

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Abstract

The research methodology of "descriptive-analytic" with the aim of analyzing the indicators in the assessment of urban development in the catchment Ghaffar has been carried out in area. Indicators of urban development in the area according to available data resources include 12 factors of topography, vegetation, slope gradient, the land, soil conditions, altitude, power user, the communication area, the hydrology of the region, the economic and social area, region, land use and fault conditions which are classified. To form database and providing required layers of base map we used data on natural resources of Khuzestan. To achieve the status of urban development in Ghaffar catchment conversion layer and software were produced in Arc GIS 10. According to the fuzzy membership functions of the fuzzy map conversion and in order to analyze their situation and assess the model of urban development we offered Ghaffar catchment area a fuzzy gamma operator (Fuzzy Gama). Maps produced in the ArcGIS software and fuzzy process and analysis layers show that among selected indicators about 0.67 of the basin area is not suitable for urban development. Test threshold of 0.7, 0.8 and 0.9 for gamma analysis shows that, Gamma analysis phase with a threshold of 0.7 in accordance with the conditions of the region and consistent with than the limited parts of southeast and east bordering of the catchment areas of basin for urban development is not appropriate.

Keywords: Fuzzy analysis, Urban development indicators, The gamma phase, Ghaffar catchment.

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***Land Suitability Assessing for Saffron Cultivation Based on Using
Vikor Method in GIS (Case Study Malayer City)***

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Abstract

Crop production ability and its potential are significantly up to climate, topography and land use which are the most important environmental factors. In this study, using climatic data such as temperature, precipitation, number of frost days, sunny hours and relative humidity related to phonology steps of saffron growing, Also ground resource data such as topography, land use layers which are prepared by Landsat 8 satellite imagery dated 14/5/2013. Evaluating each of these parameters have been taken in relation to the climate and ecology needs of saffron. Information layers of them were prepared by adjusting data to the surface, and processing them by GIS technology. Multi-criteria decision analysis methods (MCDM), based on vikor were used in order to prioritize and evaluate information layers and their weights in connection with each other. Then layers were weighted based on the criteria and subject model also these layers were overlapped and analyzed in GIS environment. Consequentially, the final layer of land suitability was prepared for saffron cultivation. In this study, 10.23, 45.25 and 45.52 percent of the total area are good, average and weak suitability lands respectively. According to this research, vikor method can have an acceptable function over selecting the fitness values for each class.

Keywords: suitability, saffron, GIS, Vikor, malayer city

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The Geographical Analysis and the Spatial Allocation of Urban Temporary Settlement Centers in Environmental Crisis by Using of GIS (Case Study of Esfahan City)

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Abstract

One of the subjects that most cities of the world are faced to it is the subject of natural occurrence the crisis management is necessary. for the quick and correct performance of decisions to reduce the hurt and their effects before, during and after the natural occurrences. This management is related to planning, urban management and also geography. Using the urbanism principles such as texture, urban structure, and use of urban lands, relation networks and urban substructures and so on, we can reduce the effects of natural occurrences a lot. The goal of this study is the spatial allocation of temporary settlement centers in the district six of Isfahan city in environmental crisis using GIS and the correct management of the past, during and after the crisis.

The methodology of the research is descriptive and analytical that using the technique of AHP and using the graphic software ARC/GIS to provide the map and spatial allocation of temporary settlement centers, the problems of the parks and the rescue centers of the district six of Isfahan city with the crisis management have been researched. The kind of research from the point of goal is application. The results show that

- 1) The parks don't have suitable numbers and distribution.
- 2) The rescue centers don't have suitable numbers and distribution.
- 3) Also, they face to lack of the equipments and installations

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For this reason, some programs have been offered to Power the district six of Isfahan city against the destructive effects of the occurrences from the point of crisis management. Based on the results of this research using the upper technique and regarding the various standards such as the distribution of electricity centers, fire station .cure centers, fuel centers and so on in district six of Isfahan city, the suitable regions of temporary settlement have been recognized and preferred.

Keywords: Esfahan city, Rescue centers, Crisis management, Spatial allocation, Green and open space or park, Temporary settlement.

***Using the Least Squares Method for the Generation of Digital
Precipitation Model***

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Abstract

One of the most important procedures in the water sources studies is the estimation of the local distribution of precipitation in different time scales. The study of precipitation is a basic element in the water balance studies and is an important factor in the natural sources programs of each country. Also, because of the rain-evaluation stations deficiency and their discreteness, it is necessary to use a special model. Besides the interpolation of precipitation amounts of stations, this model should interpolate topography, moisture and the slope direction of precipitation. In this work, at first, some data were gathered, in one year. These data were connected with the precipitation and moisture of 9 synoptic stations and 31 rain-evaluation stations. These stations were located in the Lorestan province. Second, using the least square method and with the help of Maple software, the relations between precipitation and moisture was extracted. Third, by using the Python programming language, these relations were linked into the GIS. Finally, by so doing, the digital precipitation modal was achieved. The results obtained from the digital precipitation model show that, the precipitation amounts are different from the measured data in the stations, from 0.02 to 11.6

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mm. Also, to investigate the efficiency of the considered model, the data obtained from this model were compared with the precipitation data achieved from TRMM radar at 21 April 2010. The concluded result show that, the determination coefficients are 79 and 86% for the TRMM data and for the digital precipitation model, respectively.

Keywords: Precipitation Interpolate, Least squares method, Lorestan province, Digital Precipitation Model.

The Analysis of Moisture Flux Convergence Frequency Affected the Heavy Rainfall in Northwest of Iran

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Abstract

In this study, frequency and location of Moisture Flux Convergence (MFC) related to heavy rainfall have been analyzed using environmental to circulation approach. Based on the threshold of upper 99 percent, we selected 106 days of the super and overall heavy rainfall from IRIMO data base. MFC's frequency and their locations have been detected from 0° to 120° E and 0° to 80° N in the five levels (1000, 925, 850, 700, 600 and 500 hPa level) at 00:00, 06:00, 12:00 and 18:00 UTC. Analysis of MFC indicated that among upper levels, frequency of MFC in 850 hPa, due to high frequency is very important.

Keywords: Environmental to circulation approach, Humidity flux, Heavy rainfall, Northwest of Iran.

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Climatic Potentials in Iran for Soybean Cultivation

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Abstract

The evaluation of environmental conditions in particular climatic conditions of crops such as soybean is of a great economic importance for the country. In suitable regions, with a minimum requirement of soybean, three regions were identified. By choosing a 20-year period from 1990 to 2010, a precipitation map of Iran on the basis of all available data was completed. By analyzing 20 years of daily data over 500 mm in the North, West and South West regions, the most suitable regions were determined. To increase precision, creating a virtual stations on the basis of daily maximum and minimum temperatures, areas outside of the internal parts were removed and each of the relevant area, was approved to determine the ultimate potential. Using CGMS software, the minimum temperature, maximum vapor pressure, sunshine hours and wind were estimated for rainfall estimation from Completely Regularized Spline (CRS) method, and Spline Regularize (SR) method was used to estimate relative humidity. In the next phase, the mean rate of deficit in soybean yield in dry land conditions was determined using the CROPWAT. Then, three valuable layers of precipitation, relative humidity and maximum temperature were explained by the use of AHP to determine the weight of each layer which was overlapped. The results showed that in the West and South West regions, with the percentage deficit crop yield of over 50%, conditions are low to moderate but the western half of the country's northern region can be considered suitable for soybean cultivation. Calculations showed that the deficit efficiency of the crop in this region, was less than 10 percent and thus has good potential for rain-fed soybean cultivation. It

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also became clear that to start rain-fed soybean cultivation in all regions, the month of Ordibehesht was more suitable than other months.

Keywords: Climate potentials, Soybean, CGMS, CROPWAT, North-West Iran.

***The Optimal Location of the Lighvan Village Landfill Using
Analytic Network Process (ANP)***

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Abstract

Environmental protection in rural areas is one of the necessities in rural development. One of the important issues in rural areas is to find the appropriate landfill site. In this study, the purpose is to assess the proper places for landfill in Lighvan village, corresponding to the needs of the village, geomorphological factors are analyzed. In evaluating the landfill site, GIS software and Analytic Network Process modeling (ANP) are used. Five human factors of topographical-morphology, climate-hydrology, soil-vegetation and geology are considered. These factors produce 12 layers of land use, distance from residential areas, and distance from the lines of communication, distance from fault, distance from the river, slope, elevation classes, and direction of slope, climate, soil, vegetation and the lithology. The appropriate landfill site is identified by using the layers and models in Arc Map. Results show that proper places allocate 23.87 and improper places allocate 21.13 percentage of the desired area. By zoning plan, appropriate places in the entire Lighvan village are introduced which can be used in future planning.

Keywords: Network analysis process (ANP), Lighvan village, Geomorphology positioning, Landfill.

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The Potential Evaluation of Wind Power Plants by Using the Fuzzy-AHP Methods in GIS (Case Study: North East of IRAN)

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Abstract

In this study, for potential s on of wind power plants in the provinces of Khorasan the northern different criteria and sub-criteria have been cons he fuzzy criteria are based on expert opinions and in researches, control point and fuzzy function for each based on their membership gradation range of zero and one was determined in the IDRISI software. Then, according to the importance of integrating information, Analytical Hierarchy Process (AHP) for layers weighting was implemented by Expert choice software. Then, the software ArcGIS, was used to spatial analysis and overlapping layers, and after the analysis of information, Razavi Khorasan and North Khorasan province, in terms of capability the wind power plants building, divided into four levels: excellent, good, fair and poor. Finally, the results indicated that excellent are as for the construction of wind power plants in the study area are located in the southeast of the study area at Torbatjam station with an area exceeding 222565.97 hectares (0.018 percent). In addition, good areas are located around the Taybad and Khaaf, Golmakan, Sarakhs, Roshtkhar, Bardaskan, Neyshaboor, Sabzevar, Bojnurd, Ferdows and Jajarm stations with an area exceeding 1817573.81 hectares (0.17 percent). One can see that renewable energy of wind without any pollution could be utilized by the construction of wind power plants in the replaces ultimately.

Keywords: Potential evaluation, Wind power plants, Fuzzy-AHP method, Geographic Information System, Razavi Khorasan and North Khorasan.

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Evaluating of Geo-tourism Capabilities of the Village Kandovan

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Abstract

Geo-tourism has been created by the combination of words geo (earth) and tourism). Geo-tourism has attractions of geology, geomorphology, cultural and aesthetic of the geography location. The aim of this research is evaluating of geo-tourist capacity of Kandovan village location. For this, in this research was used described -analyzed method. In described method, work tool of researchers is field and documented studies. In next stage, capability of village geo-tourism was evaluated by view of experts and tourists. Finally, analysis of data was performed by dynamical model. The results showed that scientific value index of village Geo-tourism, residual values index and region's vulnerability coefficient are 22.88, 29.08 and 2.47 respectively. Finally geo-tourist capacity of Kandovan was evaluated well based on qualitative (54.45) and quantitative criteria of model.

Keywords: Geo-tourism, Dynamic models, Assessing the capabilities, Vulnerabilities, Kandovan village.

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***Landslide Hazard Zoning in the Western Area of Khoy County
Using Anbalagan Method***

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Abstract

Landslide is one of the most dangerous natural hazards which affects mountainous areas and destroys residential areas, farms and basic facilities each year. In addition to the damage caused by landslides on roads in towns and villages, the surrounding agricultural lands and settlements are also affected by soil erosion. The study area with an area of about 80,000ha is located in the west of Khoy city, northwest of Iran. Some landslides have occurred on the southern slopes which verge on the roads and frequently damage the main road, Iran-Turkey railway and several villages, such as Gougerd and upper Kalt village. Due to the proximity of the study area to the main roads and residential areas and the existence of several historical mass slides, evaluation of landslide hazard and preparing a risk map is necessary. In this research, the potential landslide zoning map was developed by evaluation of each parameter influencing landslide including lithology, slope geometry, geological structures, relative elevation, land use and coverage and ground-water. Final zoning map was produced through overlaying of the maps developed by scoring of the mentioned parameters. The study area was divided in to 5 zones from potential landslide view of point, including safe, low, medium, risk and very high risk zones. About 23 and 5.6 percent of the total area are subjected to high risk and very high risk landslide hazards, respectively.

Keywords: Landslide, Zoning, Anbalagan method, Khoy County.

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***An Investigation into the Performance of Consultative Management
in Physical Sustainability of Piranshahr's Neighborhoods***

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Abstract

Management of town organizations through local communities can be in terms of both mutual interactions and the effect of physical and social individuals. In order to achieve sustainable urban development, which is based on consultative management of development, an appropriate capacity needs to be built. Capacity building in urban neighborhoods can be conducted through understanding citizens' abilities and engaging them in urban plans. The communication between the citizens and urban governors plays the most important role in sustainable formation of urban neighborhoods, management of optimal quality of life, conditions of residential neighborhoods, and sustainable urban development. The aim of the present study was to investigate the effect of consultative management performance on physical sustainability of urban neighborhoods. Survey method was utilized to collect data. In so doing, a "structured questionnaire" that was designed based on internal and external sustainability indicators was applied. The target population included four main neighborhoods of Piranshahr. A sample of 382 individuals was selected through Cochran's model. Statistical tests were conducted to check the sustainability of every single indicator. Then, the urban neighborhoods were ranked based on Vikor model. Finally, the results showed that the target indicators had a significant effect on the sustainability increase of the urban neighborhoods such that the people's participation affected neighborhoods sustainability in the town. Finally, based on Vikor model the results showed that neighborhood 2 with a sustainability rate of $Q=0.55$ had more favorable conditions compared to the other neighborhoods.

Keywords: Consultative management, Urban management, Physical sustainability indicators, Neighborhood sustainability, Piranshahr.

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