

***The Study the Role of Participatory Management to Reduce Flood Impacts (Case Study: Rurals of River Basin Zngmar Maku city)***

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**Abstract**

Natural disasters are considered as part of the inescapable facts the control of whose occurrence is largely outside of human power. Therefore, natural disasters always have been important issues in biological communities and confronting with the disasters, and harmful effects have been the long-term goals of the communities. The flood phenomenon is considered as one of the unforeseen events and devastating in rural areas of the country. Management of natural disasters, especially floods, is a collection of actions that occurred before, during and after the occurrence of disasters to reduce more effects and damages. Today the approach of response to disasters as command-control structure, has been focused and technology-oriented and is displaced with a new approach called community-based management. It emphasizes on cultures, abilities, knowledge and capacity of existing local communities. In fact, without a comprehensive and systematic look, regarding all aspects of economic, social-institutional and environmental problems in large part is far from achieving. In this regard, the rural communities isn't far this process and always has been subjected to flooding and its effects, and the other hand, rural area in this study (Zangmar River Basin) and livelihood and activities of residents are affected by flooding constantly and create many financial damages and losses of

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life for villagers. In this study, for data requirements, both library and field mode (questionnaires and observations) have been used. To cover the whole basin among villages (that were in three ranges of high, medium and low vulnerability in total of 63 villages), 21 villages were randomly selected. Then, by using the Cocoran formula total of 292 households were identified as samples. Also from 50 groups of officials among 5 organizations related to flood affairs in villages we selected samples and correlation test, we used one sample T test and variance analysis. The results of this research indicate that in all aspects of participation, both villagers and officials group believe in participation in the period before and after the flood disaster, and also there are large similarities between approaches of two groups of officials and rural people into rate, type and period of participation in flood management in flood risk areas in the field of case study.

**Keywords:** Natural disasters; Flood management; Participatory Management of flood; Maku city

***An Analysis of Super Heat wave Climatic Hazard Occurred in 2010  
Summer in Khuzestan Province***

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**Abstract**

In this research in a survey and analysis of daily maximum temperature data in 13 stations of Khuzestan Province on 21 May to 31 September 2010, the stations were classified into four clusters using the Ward clustering method. Clustering results demonstrated that Abadan and Bostan stations were the warmest stations in Khuzestan province and maximum temperature in Izeh is lower than other stations. Also, based on the average maximum temperature data a separate criterion for determining the super-hot temperatures was presented, i.e., the threshold of 47.17 degrees Celsius. Temporal sequence of warm temperatures occurrence in more than one day temperatures have created super heat waves. During studied time interval, five heat waves were identified in the Khuzestan Province. The warmest super heat wave between five super heat waves was a 4-daily super heat wave which occurred from 5 to 8 July and selected for synoptic analysis. Results of synoptic analysis for mentioned super heat wave proved that institution of a low pressure at ground level and high pressure dominance in middle levels to 500 hp and also the sever increasing in the thickness of the atmosphere that caused on warm air subsidence and abnormal warm air heating and reflow of the earth surface were regarded as dynamic-synoptic agents of super heat wave day occurrence. Analyzing of atmospheric temperature advection maps proved that interneal source of heat air to Iran and Khuzestan Province was hot and dry air advection from the Africa, Arabian Peninsula and Iraq. This process is the effective and creative agent of super heat wave that occurred in 5 to 8 July 2010 in widespread sections of Iran particularly in Khuzestan Province.

**Keywords:** Super heat temperatures; Super heat waves; Synoptic analysis; Khuzestan Province.

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***The Determinants of Unwillingness to Bicycle Use in Urban Travel  
(The Case of Zanjan)***

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**Abstract**

Nowadays, the usage of bicycle is one of the main tools for gaining desirable cities. The increase of population in the third world cities and using of fuel in these countries has been intensified in last decades. For this, the usage of bicycle has been considered in transportation affairs. One of the main policies in attaining sustainable development in cities is the expansion of bicycle use. The main purpose of this paper is to investigate the determinants of unwillingness to bicycle use in Zanjan city by using of questionnaires and library approaches. The results of this study have been analyzed by SPSS and Excel software. The main findings of this study indicate that the use of bicycle is very low in Zanjan city and only 8% of people use the bicycle in urban activities. The unwillingness to use the bicycle in urban activities can be resulted from advertising constraints, constraints of bicycle benefits, shortage of security for bicycle runs in city network and other cases such as unwillingness of managers to use bicycle in travels.

**Keywords:** Bicycle; Urban Transportation; Willingness of Citizens; Zanjan City.

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***Spatial Prioritizing of Integrated Management Systems in Urban Districts (Case Study: Tehran municipality districts)***

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**Abstract**

The city as part of a hierarchy of spatial systems and divisions of political-geographical in each country based on various criteria such as type of governance, management, knowledgement, social interest and public participation in decision-making system is formed. Since each element can be defined within functional features, so according to different roles that is defined in the subsystems of urban systems, can be identified by a variety of constituting components of the system. According to the role of urban management as system of control and guidance of urban in metropolises, can be named the elements mentioned under the management of municipal areas as elements of urban systems. On the other hand, the extent and distribution of metropolises are needed to balance in the volume of operations with it. The purpose of this research is spatial priority of integrated urban management system in districts of Tehran to solve the problems of urban management. Method of research is descriptive-analytic. To achieve the goal of research is used multi-criteria decision making models such as AHP and VIKOR for ranking of districts of Tehran. Results of the research show that among the urban districts of Tehran, district 6 is one of the most problem areas. Subsequently, is located the regions of 2 and 14. Also The results show that regions 8, 16 and 22 have fewer problems than other areas. Finally, spatial analysis for prioritizing of integrated urban management system in study area has been studied and suggestions are presented.

**Keywords:** Urban management; Spatial prioritizing; Vikor; Tehran

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***Prioritization of Agricultural Processing and Complementary Industries in Azarshahr County by Delphi and TOPSIS Combined Methods***

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**Abstract**

Agriculture as a main economic activity of Azarshahr County is facing with fundamental problems (lack of proper marketing, high losses, low price of products and ...). Most of these problems can be solved by creating agricultural products processing industries. Also, some of the region's economic and social problems such as lack of adequate employment, hidden unemployment and low income, can be improved by creating such industries. Agriculture in Azarshahr, according to the statistics of this county, annually produces over one million tons of agricultural products and overproduction in some agricultural and animal productions, such as horticultural and livestock products, which is indicative of necessary attention for establishment of agricultural processing and complementary industries in this county. This paper tries to determine Azarshahr County suitable processing and complementary industries and for this goal according to descriptive-analytical methodology; first we recognized the goals and then prioritized the industries using data gathered from experts and professionals in Agricultural Organization of East Azerbaijan Province and Azarshahr County and using combined Delphi and TOPSIS techniques. Results show that in Azarshahr County priority attention should be paid to processing industries related to livestock products because of higher overproduction and also rapid spoil ability of products, and thereby, industries related to horticultural products because of their important role in suitable using of regions agricultural products.

**Keywords:** Prioritizing; Processing and complementary industries; Agriculture; Combined Delphi and TOPSIS; Azarshahr

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***Evaluation the Rate of Citizen Satisfaction from the Quality of Urban Environment (Case study: 10 Zones of Tabriz City)***

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**Abstract**

Being concerned to achieve good shape of the city has been commenced since the formation of primary cities. Moreover, involvement of human thought to improve urban life is simultaneous with urbanization history. Urbanization growth and human tendency to settle in the cities has been made the concept of urban quality of life important more and more.

Type of study is applied and developmental and in terms of method used in the research is descriptive-analytical and survey. Given the high mass of the population, for data collection the sampling method was used. The sample size was calculated 384 samples using Cochran's formula for city of Tabriz. The samples of the study area were chosen by using random sampling method regarding the population size of the each zone. To analyze data fuzzy multi-criteria decision making techniques and cluster analysis were used.

At last final score of citizen satisfaction rate in terms of their quality of living environment were classified into 3 levels (including:

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acceptable satisfaction, moderate satisfaction, low satisfaction) using cluster analysis. The zones of 2, 5 and 3 were placed at first level which is high satisfaction. Second level consists of the zones 6, 8, 7 and 4 which is in moderate satisfaction. The lowest satisfaction is related to zones of 1 and 10 which have lower satisfaction in comparison to other zones.

**Keywords:** Urban zoning; Delphi fuzzy method

***Survey of Temporal and Special Changes of Nisan Rainfalls and Prediction of Them in East Azarbayjan Province***

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**Abstract**

In this paper, Nisan rainfalls of East Azerbaijan Province in the period of 1980 to 2009 were investigated. Initially changes of Nisan rainfalls trend were analyzed using the non-parametric Mann-Kendall test and Sen's estimator slope that are the most common methods of non-parametric tests. In order to predict changes of Nisan rainfalls in the next years, ARMA time series model was used. The results indicated that according to non-parametric tests in the study period, time series of Nisan rainfalls have no trend in none of the stations except Azarshahr. After reviewing of different patterns of ARMA model, proportional model for each station was selected based on Akaike information criterion (ACI) and, the Nisan rainfalls in East Azerbaijan Province were predicted for next 10 years. The accuracy of models was confirmed based on normality tests for residuals of the model and RMSE.

**Keywords:** Nisan rainfalls, Trend, Mann-Kenedall, Prediction, ARMA model, East Azerbaijan.

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***Trend Analysis and Considering Effect of Meteorological Parameters in Tabriz***

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**Abstract**

The aim of this study is trend analysis of meteorological parameter including mean wind speed, min, max and mean air temperature, difference between the min and max temperature, pan evaporation, average relative humidity, sunshine hours, total precipitation, the number of days with precipitation more than 1, 5 and 10 mm, the number of days with dust, number of the days with snow and the number of days with visibility less than 2Km, degree days based on 18 and 21 °C at Tabriz station during 1970-2005 in three time scales, monthly, seasonal and annually using the non-parametric Mann-Kendall (MK) method. Trend analysis was conducted using two methods, which are conventional MK (for series having insignificant autocorrelation coefficients) and modified MK (for other series) in three significant levels, 1%, 5% and 10%. Trend slopes were calculated using Sen's estimator. Results showed that in annual time scale, pan evaporation, min, max and mean temperature and degree days based on 18 and 21<sup>0</sup>C have significant increasing trends at 5% level but precipitation, number of the days with precipitation more than 1 and 5 mm and degree days based on 18<sup>0</sup>C have decreasing trend (at 5% level). Other parameters did not show significant trend in annual time scale. Trend slope of annual precipitation was -2.28 mm/year and trend slopes of all three elements, average, max and min temperature were 0.06 °C/year. Observed trends in studying parameters indicate climate change in Tabriz.

**Keywords:** Mann-Kendall; Tabriz; Meteorological parameter; Sen's estimator; Trend.

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***Green Space Site Selection in Tabriz County by Using Geographic Information System (GIS)***

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**Abstract**

Increment of soil carbon is an appropriate method for reducing atmosphere dioxide carbon density resulted from foresting in the unutilized and destroyed lands and its optimal management due to increase of concern about universal heating and changing of climate. According to universal heating and expansion of urban industries issue in the air pollution; capacity of Tabriz Province lands in establishing of parks has been investigated by employing AHP. The data were collected by available basic maps and spot 2005 satellite images and also field studies. The zone digits of maps were converted to criterion maps (slope, direction, height, land usage, geology, soil, city, communication network, village and rivers) by using spatial information techniques and they were valuated for paired comparison. The value of each scale was considered according to capacity of each unit. The paired comparison of the spatial information techniques criteria was conducted by using Marionian attached program in GIS and the studied criterion weight were calculated. Then the final map in raster format was extracted by using each weight and was categorized in five classes range from very weak to very good and the best location was extracted with an area about four percent of the whole Province.

**Keywords:** Tabriz; Green space; GIS; AHP

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***Synoptic and Thermodynamic Analysis, the Heavy in North West of Iran (East Azarbaijan Province)***

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**Abstract**

In this study to identify the synoptic patterns causing heavy rainfall in East Azarbaijan province used with Environment- circulation pattern. Thus, beginning with the use of statistical methods limit type with return periods of ten-thousand-year, precipitation index for the 9 synoptic stations and climatology located at the province was determined and finally 25 days was analyzed as day's high Heavy. The clustering of the 1000 hPa geopotential height level these days, were identified three patterns of spring cyclone, deformation and winter cyclone as the creator of this precipitation patterns. Synoptic analysis of this patterns showed that the low pressure at polar latitudes move to down and troughs on the Mediterranean and the Middle East that it has spread. Next to the tropical high pressure and subsequent ridge are moved to higher latitudes. There are conditions in the planetary patterns, increased temperature and pressure gradient zonal and meridional circulation of establishing Cut-off low and blocking high system is in the region. Research area within the affected system has been up and down simultaneously. Thermodynamic analysis using data from the radio station of Tabriz probe showed that the potential instability in the event of heavy rain on the atmospheric vertical profile has prevailed. In fact, because the study area in this period of low and high latitudes is dominated systems and the systems at different height levels of temperature and humidity differences are great together, a stratification of temperature, moisture in the atmosphere will be created and established conditions of potential instability.

**Keywords:** Heavy rains; Potential instability; East Azarbaijan; Deformation; Cyclone

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***The Evaluation of Ecological Potential of the West Azerbaijan Province to Determine Susceptible Urban Development Using Fuzzy Logic***

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**Abstract**

It is impractical to exactly uncover the degree of potential of the areas for the land use purposes. However, the application of fuzzy logic, as a mathematical modeling logic of imprecise and vague processes, can pave the way so as to do processing modeling and to determine the ecological potential. In the present research the ecological urban development model of West Azerbaijan was considered as the basis and performed using fuzzy logic. The fuzzification of ecological resources maps and indeed fuzzy inference system in geographic information systems (GIS) is a way of determining the fuzzy membership degree and the overlapping of different layers for urban development. The results of the ecological evaluation of urban development and analysis of fuzzy logic strengths and weaknesses as compared to implementation of Makhdoom model illustrated that the fuzzy inference engine in the geographic information systems can yield much real output particularly in the sides of borders which form the ecological resources maps. Finally, this study invites further economic, social, and modeling studies in the issues of assigning lands for different usages.

**Keywords:** The ecological potential; Fuzzy logic; Land use; Urban development; West Azerbaijan.

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***Qualitative assessment of Residential Land use Deployment  
Location in the Metropolitan of Tabriz with Analytical Hierarchic  
Process***

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**Abstract**

The most important part of a city is housing and assigns major part of land uses for itself. In such a way More than 60 percent in small towns and about 40 percent of big cities is covered by residential land use. The most important and complex items to the urban planners determining the quality of the residential Land use deployment position and match it with the principles of urban design. Prevalence of affective factors in determining the spatial quality of residential land use deployment location, Makes necessary using of multivariate procedures, for specifying the appropriate degree of quality of residential use. The main objective of current paper is to determine the current pattern of deployment residential land use in accordance with the standards of residential land use location in decuple municipality of Tabriz metropolis. To achieve this purpose, multi-criteria evaluation methods based on Analytical Hierarchy Process (AHP) employing for producing and analysis of maps. During this process, the natural and human factors have been identified in 12 indicators and the final quality map of residential land use deployment location based on AHP model produced. Based on research findings, from the total area of 4043.09 hectares residential land use about 502.14 Hectares with low to very low standard located in the northern parts of 1, 4, 10 and 558.61 Hectares in areas with average standard southern parts of the region's municipalities 1, 2 and 2982.314 hectares in areas with high to very high standards in the central parts of the city council district 3, 4, 5, 6, 7 and 8 are located.

**Keywords:** Land Suitability; Residential Land use; Multivariate analysis method; Analytical Hierarchy Process

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***Investigation of Effective Meteorological Parameters Variations in Urmia Climate***

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**Abstrac**

One of the atmospheric cycle properties is climatic changes which can cause the fluctuations in meteorological parameters. These fluctuations in many world regions are considerable and water and soil resources are affected by them. To prepare against undesirable effect of climate change and adopt suitable development programs and water resources management, it is necessary to investigate the meteorological variable changes. The objective of this research was to investigate the climate change in Urmia region. In this research, the changes trend of temperature, precipitation, relative humidity, sunshine and potential evapotranspiration were studied. To achieve this goal, Urmia synoptic station daily data with 40 years period (1971-2010) were used. The Mann-kendall statistical test at confidence level of 95% was used to investigate the significance of trend in the mentioned parameters. The results showed that the trend slope of maximum, minimum and average of temperature was positive and this trend in 95% confidence level was significant. Urmia precipitation was decreased with slope of -2.26 so that this decrease was significant. The sunshine had positive slope and significant trend, but the negative trend of relative humidity and the positive trend of potential evapotranspiration (0.0068) were not significant. The monthly investigations showed that the average temperature in all months had positive slope, but this slope was not significant in all months. The other parameters in some months had positive or negative slopes.

**Keywords:** Urmia; Climate change; Temperature; Precipitation; Potential evapotranspiration; Mann-kendall

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***A Synoptic Analysis of Heavy Rains February 2011 in Southern and Central Regions of Iran (with emphasis on Kerman Province)***

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**Abstract**

In this research we investigated synoptic pattern of heavy rain 1 and 2 February 2011 in southern and central regions of Iran specially Kerman province. At the first we calculated heavy rain for all of synoptic stations with use Extreme value type1 then thermodynamic characteristics of heavy rain analyzed with use radio sounding and Skew-t data. For analyzing of this phenomenon we used daily rainfall data 32 synoptic stations of southern and central regions and SLP and 850, 500 and 300 hgt maps. In the 5 day periods, we investigated synoptic pattern formation and its trend in weather maps. The results show that main factor of precipitation in region is formation of cut off low on Mediterranean sea. This system act so blocking and with move onto east, it causes that trough of east Mediterranean reinforcement thus west systems penetrate to lower latitude and they get high level of humidity from south seas and they makes sever precipitations in the study area.

**Keywords:** Synoptic analysis; Heavy rain; Cut off low; Mediterranean sea; Kerman province

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***Evaluating the Recreational Value of Kandovan Touristic Village  
Using Travel Cost Method***

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**Abstract**

Given the increasing demand for recreation places, it is appropriate to use social and economic analysis to study peoples' demand for the provision of recreational facilities in any region. Kandovan is a tourist attraction and a historical village located on the south of Tabriz. The estimation of the recreational value of Kandovan village is useful in predicting needs, meeting requirements and development of tourism in the region. The research method is based on using maps and collecting data about socio-economic characteristics of visitors and travel cost associated with the visits. The data were collected by questionnaires and interviews with 124 visitors. The results revealed that the amount of travel cost was negatively related to the number of visitors, 82 percent of visitors were willing to pay the entry fee to the village. The average willingness to pay was 26570 Rials and the recreational value of Kandovan was estimated to be 3295000 Rials.

**Keywords:** Kandovan village; Travel cost method; Terecreational value

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