# ABSTRACTS

# Analysis the Phenomenon of City-region And its Conceptual Requirements for Urban Areas in Iran (Case study: Mashhad Metropolitan Region)

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Problems faced with the metropolitan in recent decades and the inability of municipal managers to solve these problems, draw the attention of theorists to a scale beyond the metropolis, i.e. was attracted to the region level. A new spatial global phenomena in the region, is a structure is interpreted as "city-region". The clear and exact meaning of this phenomenon has always been faced with confusion. So, the aim of this study was to explore the concept of city-region and also find the answer to this question that according to the requirements of the city-region's concept, can this term be used for metropolitan area of Iran (Mashhad metropolitan region) or not. Thus, firstly, different definitions of city-regions and the roles and functions assigned to it in the specialized literature have been reviewed. In this transition, the three main components of functional relationships, management relationship and global competitiveness were extracted and summarized. Comparative analysis of these components with the features of management and spatial planning system in Mashhad metropolitan suggests that only the functional relationship applies to metropolitan cities of this region. In fact, the feature of governmental – institutional integrity has not been observed in Mashhad metropolitan district on one hand and on the other hand, this district has not the required capacities for entering in to the discussions relevant with the world Competitiveness, therefore, it can be said that the Competitiveness feature at cross regional does not apply for Mashhad metropolitan district. Therefore, it is recommended to use the term of "metropolitan regions" instead of "city-region" in Iran.

**Keywords:** City-region, Metropolitan region, Regional governance, Global competitiveness, Mashhad metropolitan region.

# Feasibility Study of Formation Creative Region According to Tourism Industry (Case study: Yazd City)

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Yazd city is faced with environment problems in natural dimension and economic problems, lack of employment and work opportunities in economical aspect. The environmental problems of Yazd city is related to the old and foreworn factories which were active in the field of construction materials. At the present time, due to their abandon, are considered as one of the environmental problems and due to their failure and being out of service are considered as one of the economical problems. The ideal aim of this research is formation of a creative region with industrial tourism and its functional aim is presenting the required proposed guidelines for development of program and creative plan with emphasis on formation of creative region with industrial tourism.

In this research, for advancing each one of the considered aims of this research, different methods have been used. As general, it is possible to define the evaluation method in GIS as the following: after recognizing the current conditions of Yazd city and forming the basic data and information, by using the software for analyzing the city information, the quantitative data will be formed as quality outputs in the form of analytical maps and by using Fuzzy Logic. Then the above obtained maps, due to being qualitative have been used by grounded theory method and by coding the obtained information from the analytical maps, the integration model is prepared and the feasibility of forming creative region in Yazd city with respect to integration strategies is determined. The results indicate the theory of industrial tourism as the appropriate option for forming creative region. The cycle of creative region includes innovation, social capital, life quality and creative human capital.

**Keywords:** Creative region, Industrial tourism, Creative, Tourism, Yazd city.

# Assessment of Planning Periods Of Mashhad Comprehensive Planning, Based on The Indices of Smart Growth

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This paper, based on the presented indices by the theory of smart growth of the city tries to assess the comprehensive plans in Iran and monitor the level of attunement of these documents (as the most important document of the city development by the view of smart growth). The method of research, is analytical – comparative, The method of research, is analytical – comparative, and based on the obtained inferential statistics from data analysis of three periods of comprehensive plans in Mashhad, and their integration with the evaluation method of multi-criteria and hierarchical AHP. The results show that among the four selected indicators, from the ten indicators of smart growth, the importance of "strong and direct development towards existing communities", According to the current conditions and needs of the urban population in Iran, is dramatically higher than the other indicators. As its reason, it can be referred to this case that by using development towards existing communities, it may achieve other components including preserving open lands, mixed use and compact construction. Also according to the coefficients of the importance of the reviewed indices, it was found that planning period of Mehrazan comprehensive planning, in the time period of 1970-1990, in total has been more consistent and aligned with the indices of the smart growth.

**Keywords:** Smart Growth, Comprehensive Plan, AHP, Mashhad city.

## Atmospheric Pressure Indices and Climate of Iran

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Identifying the climatic indices and study of teleconnection is an important method in association with the purpose of synoptic climatology science. What are the most important indicators for Iran's climate? For this aim, digital data of daily height for important atmospheric levels from the National Centers for environmental prediction and Atmospheric research for a period of 63 years (1948-2010) and daily temperature and precipitation data for 43 synoptic stations was received in 30years (since 1977-2008). from meteorological organization of Iran. By using the analysis method of main component the important atmospheric indices in the geographical limit of northern latitude of 10 to 70 degrees and 10 to 80 degrees of geographical east longitude for the cold half of year (fall and winter) were identified and through correlation method, the manner and importance of each one of these indices in Iran's climate were determined. The results showed that there are seven climatic indexes in the under study geographic area and the most important of them for Iran's climate from beginning of cold season up to the middle of March include the indices of Central Asia ,North Siberia, Western Europe, Anatolia and the Western Mediterranean respectively. Indicators have the greatest impacts on the temperature of Iran’s climate and their precipitation effect is zonal. Most of the precipitation relationship is between the Caspian Sea coastal area and the index of Central Asia and Scandinavia - Central Siberia respectively in autumn and winter and whole of Iran with western Mediterranean. Thus, according to tobler’s principal in geography, the centers and the most important indicators of Iran's climate are near Iran and their importance is more than the climatic indices located in far away distances.

**Keywords:** Climatic indices, Teleconnection, Climate of Iran.

# Priority Assessment of Iranian Islamic Development Indicators in the Realization of Spatial Planning of Khorasan Razavi Province with the Justice Based Approach

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Equitable economic development is the most important purpose of the Islamic economic system and spatial planning is a kind of developmental planning that attempts to remove regional imbalances and social and economical inequality within the framework of the goals and policies of Iranian Islamic development (with the justice based approach). In this regard, the purpose of the study is to assess priorities of the Iranian Islamic development indicators (economical justice, social justice, physical justice, ecological justice and cultural justice) in the realization of spatial planning in Khorasan Razavi province as well as the assessment of development indicators in the cities of the province. And to evaluate the effect on the dependent variable of each of the indicators in order to achieve justice in various dimensions. This research is practical and developmental and its method is descriptive-analytical and survey. The population includes geographical, economical, and social experts and sample size consists of 120 professionals and also it consists of a compilation of 40 indicators derived from the yearbook based on random sampling. Method of data collection is library based and field based (questionnaire). To analyze the data, structural equation modeling (LISREL), analysis network processing (ANP), Shannon entropy, (VIKOR) model, cluster analysis and dispersion coefficient were used. The results obtained from VIKOR model show that there is inequality and regional imbalance among the cities and according to the results of structural equation modeling and network analysis, the component of ecological justice with direct and positive coefficient (0.99) was known as the first priority and the most influential component in the realization of spatial planning in Khorasan Razavi province. Since spatial planning is a program for regions based on potentials and capabilities, if in developmental programs, the nature of the priorities reorient towards Iranian Islamic development (the justice based approach), grounds for the realization of spatial planning will be provided in the province.

**Keywords:** Iranian Islamic development, Inequality, Social justice, Spatial planning, Khorasan Razavi.

# Comparison of Conventional Methods for Estimation of Suspended Sediment Load of Karkheh River by Gene Expression Programming Approach

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Estimation of suspended sediment load of rivers due to its impact on designing and management of water structures is an important factor in water engineering, hydraulic and environment. Several attempts have been made up to now by the researchers to exact determine the suspended sediment load, for example, the establishment of relation between sediment discharge and flow discharge can be referred. The problem of this conventional method is its uncertainty. So, a number of researchers have been attempted to estimate the suspended sediment load by using intelligence methods and evolutionary algorithms. In the present research, Gene Expression Programming (GEP) was used to predict the suspended sediment load of Jelogir and Payepol stations located at the upstream of Karkheh reservoir dam. The results have been compared with sediment rating curve and FAO methods results. So, daily stream flow, suspended sediment discharge and rain height corresponding from 1986-2012 were collected and used. For this, two scenarios were defined for GEP performing. The first one has been performed by using daily stream flow and suspended sediment discharge data. The second one used the rain height information of catchment, too. The results showed that the second scenario was more accurate rather than the first one. The comparison results of test period indicated that the GEP has decreased the root mean square error (RMSE) and mean absolute error (MAE) around 91% and 94% for Jelogir station and 60% and 71% for Payepol station in relation to USBR results. Also, the results of test period denoted that GEP has decreased the RMSE and MAE around 92% and 96% for Jelogir station and 85% and 95% for Payepol station compared by FAO results.

**Keywords:**Payepol station, Jelogir station, Suspended sediment load, Gene expression programming, Karkheh River.

# Review the Conflict Management Pattern of Beneficiaries and Influentials in Megaprojects of Mashhad City

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Urban megaprojects has engaged directly or indirectly different activists and beneficiaries including urban authorities, investors, developers, planners, designers, land owners, residents and citizens. Therefore, the appropriate recognition of beneficiaries and social acceptance is of the main important factors for success of Urban megaprojects. Mashhad has experienced several megaprojects since 1990s and while this kind of urban development has criticized due to their negative consequences, the area and the number of such projects are increasing.This paper aims to assess the conflict management methods in megaprojects of Mashhad, uses grounded theory and three case studies including Majd and Shohada redevelopment projects and Sepad Tourism Zone.. The required data for answering the research questions which include the manner of presence and also the conflict management pattern of different activists in each project, were gathered by semi-structured interview with various activists in this project. The results show that the major conflict management method in Mashhad's megaproject is mostly based on avoidance of conflict or competing with conflict and the agreement pattern has implemented organizations, manufacturers and major property owners.

**Keywords:** Urban megaproject, Conflict management, Beneficiaries participation, Mashhad.

## Neo Tectonic Assessment of Kalmard Fault by Using GIS, Shirgasht District (Central Iran)

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Neo tectonic activity is determined by Quantitative measurements of morphologic Indexes and analysis of landscapes. Streams and drainage basins are the most important feature which are affected by the recent tectonic activities. In this study six morphologic Indexes were measured on Kalmard Fault in north of Tabas block (central Iran), including the stream-gradient index (SL), drainage basin asymmetry (Af), hypsometric integral (Hi), valley floor width-valley height ratio (Vf), drainage basin shape (Bs) and mountain-front sinuosity (J). and its result combined with seismologic study of the Kalmrad fault. These process were carried out on Aster DEM with 30 meters resolution in ArcGIS 10.1 and 89 catchment and longest flow path of each basin were extracted. According to field data and result of measurements, Neveng-Kuh, Pirhajat-Kuh are the most active regions and Kalmard Fault has post Neogene tectonic activity. Earthquakes occurrence on these faults and magnetic faults shows recent activity of this area.

**Keywords:** Tectonic activity, Geomorphologic Index, GIS, Kalmard Fault, Central Iran.

# Participation of Rural Users in Pasture Management Plans and the Factors Effective on Them in Mahneshan Township

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Participation of rural communities is considered as an important factor in the advance of natural resources projects. The present study aimed to evaluate participation of farmers in different phases of executing pasture management projects and the factors effective on them. This study was performed by the use of a descriptive-correlational research in rural households of pastures users in Mahneshan township,in which pasture management projects have been implemented or is under implementation. By using a multi phases sampling method, 204 users were selected out of 280 users as the sample and interviewed by using questionnaire. Content validity of questionare was obtained by the use of the relevant experts' view and the structure validity obtained based on the analysis of convergent validity and also its perpetuity was conducted by guide test and calculation of alpha Cronbach's coefficient (0.75-0.95). SPPS20 software was used for analysis of data. The results showed that the participation or involvement of the people in pasture protection projects is low and is more passively. Households participation has a direct significant relation with the physical assets including irrigated farming lands and orchards, number of honey bees comb, number of poultry, the amount of using supporting services including credit support services (insurance and loan), subsidized or free institutions (seed, poison, plants and fertilizers), extension for the information received from educational films and participate in promotional periods, public's knowledge about the importance of pastures, membership in social institutios of the villages and age of respondant . Based on the stepwise regression analysis, explanatory variables of farmers' participation in pasture management plans include: the number of participated periods, cultivated surface of irrigated crops, age of respondant, use of insurance, membership in the social institutes of the village and level of obtainign information through promotional videos.

**Keywords:** Pasture management plans, Evaluation, Participation, Rural users.

## Measuring the Relative Efficiency of the Cities of East Azarbaijan Province in Tourism Infrastructures Part by Using Data Envelopment Analysis (DEA)

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With the start of the 21th century, due to the existence of economical, health, security and communication infrastructures , tourism has become one of the world's top three industries. The aim of this study was to evaluate the relative efficiency of the cities of East Azarbaijan province in terms of tourism infrastructure. Current research is an applied research and data collection and analytic-descriptive methods was considered in current study. The required information were collected through library and documentary. Geographic area of research will constitute 19 cities of East Azarbaijan province. Shannon entropy models, data envelopment analysis (DEA), Matrix crossover performance and Dea slover software were used to evaluate the data. The results showed that among the cities of East Azarbaijan province, in terms of tourism infrastructures, the cities of Tabriz, Maragheh, and miyaneh with the highest performance, 0.824, 0.865 and 0.919 respectively have the first to third place and Hashtrud, Varzeghan and Charvaymaq cities with the performance rate of 0.597, 0.544 and 0.471, take place at the seventeenth to nineteenth position. Also at the provincial level in terms of distribution of tourism infrastructure there is imbalance between the cities , so that 0.29 are efficient 0.38 are semi-efficient and 0.33 are inefficient. The main reason for the inefficiency of the cities raised from high use of inputs for small production of outputs. In general, the main solution to eliminate the inequalities and upgrade of inefficient regions to an efficient border is following up the principles of social justice in all aspects and considering the efficient cities as the pattern and model in terms of tourism infrastructure in order to make the decisions in line with the integrated development of different regions of the province

**Keywords:** Efficiency, Tourism, Tourism infrastructure, DEA, East Azerbaijan province.

# Analyze of Hydro-Geoneurons of Ghezelozan Basin

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Geo-neurons analysis of Ghezel Ozan basin at the north west part of Iran by using the climatic statistics and information and Arc GIS, Surfer and excel soft wares has change to hydro-geo-neurotic analysis.

In this article, for studying the neurotic system of drainage network, the hydrologic relations and climatic data were used. Whole of Ghezel Ozan basin, by considering its main tributaries , is divided into 56 sub basins. Topo-geo- neuron, immemorial geo-neuron and virtual geo-neurons, were identified in accordance with the structures of basin pattern and attrition surfaces. The results showed that about 3792 square kilometers, the solid precipitation in Quaternary glaciers blocked and in some other way have played a role in the transformation of heights. The dominant landforms of such a situation has been in form of glacier circus. At the downstream of such landforms, despite of appropriate slope, linear probing surface water has changed into glacier surface process and has created U-shaped glacial valleys and sometimes glacial act as the form of ice sheet and as general forms landforms that is named as virtual geo-neuron. The neurons of Yanki Kand and Qalah Chay has acted as isolated topo-geo-neuron by the climatic change of the region in Quaternary and melting of ice surfaces in middle of Ghezel Ozan basin. Zanjan Rood downstream, middle and along the Ghazal Ozan, of Bijar until Miyaneh is degenerative and amount of water they receive is much less than the water that comes out of them and if there exists no rivers such as Anguran Chay, Qalah Chay, Qranqon Chay, Ghezel Ozan were not, the river becomes dry completely.

**Keywords:** Neuron, Synapse, System, Bijar, Ghezel-Ozan.

# Estimation of Erosion Intensity and Sedimentation of Ivar Watershed Using MPSIAC Empirical Methods

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Erosion and sedimentation is one of the major problems in the management of watersheds of the country. Erosion and its resulting consequences, by increasing the human utilization of the nature from the early times of the twentieth century, has caused its negative effects on the ecosystem. Studies of soil erosion has a great and considerable importance due to adverse environmental and economical consequences, gradual salinity of land, loss of vegetation cover, reduced soil fertility, increased erosion and sedimentation, chemical pollution of soil and adverse effects on the sustainable management of land. For estimating the erosion and sedimentation rate in sub watersheds and Ivar watershed in South Khorasan Province, MPSIAC model was used based on nine factors including geology, soil, climate, run off , ups and downs, land cover, condition of surface erosion, river erosion and sedimentation delivery. So that, after determining the working unit plan**, the** points relating to the nine factors' model in each working unit was estimated and also amount of sediment was calculated. Then by the weighted average of working units , the sedimentation amount for each sub watersheds and all the watersheds was estimated and finally by calculating SDR for watersheds and sub watersheds, the amount of erosion was calculated. According to the obtained results , the average erosion rate of the all area is 7.01 tons /year and the sub watersheds of I'10 and I'9 with about 14 ton annual soil erosion, have the greatest amount of erosion. Among geomorphologic faces, Masil faces with an erosion value of equivalent with 45.32 tones / hectare has a great difference with other faces. Sub watersheds I'10 and I'9 with deposition values of over 7 tons / hectare in a year have the highest amount of sediment production. The average amount of deposition in all parts of the region is 2.95 tons /hectare in a year and average deposition class has the highest proportion of the watershed area. Geology units Qal (river bed) have the highest value of erosion. Erosion value, due to high level of precipitation in high areas is increased in comparison with the outlet points and lower areas of the watershed .By increasing the runoff volume especially in the lower parts of the watershed, the erosion will increase severely. Type of the geology formation and sediment production in Ivar watershed especially in the outlet parts are the most important factors of erosion and sediment production . The existence of the sensitive formation of marl, which has appeared in all surfaces of the land, are the reason of natural erosion in the area. In outlet areas of the watershed, erosion amount is increased and are placed in great and very great classes.

**Keywords:** Erosion, Sedimentation, MPSIAC, Ivar watershed.