ABSTRACTS

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The Impact of Vegetation Cover and Land use Changes on the Hillside Morphodynamic in Ahaar Basin

Agriculture lands and the habitats established on the hill sides of Iran mountainous regions, due to instabilities are being damaged each year. The studies show that different items including vegetation cover and land use changes as the two important factors play a great role in changing morphodynamic of hill sides. In this research the mountainous basin of Ahaar at the north part of Tehran has been reviewed for this purpose as a case study. Development of human activities in the recent years with different aims in this basin has increased the risk of hillsides' movement. In order to study the morphodynamic process of hillsides, the photos of land sat 5&7 satellites (ETM+, TM) have been used and analyzed in Geomatica-Pca software as the main tools of research. Then the map of vegetation cover and land use of the area has been derived from the said photos. The technique used for this research was time comparison of vegetation cover changes by the said photos and drawing the map of these changes. In order to control the obtained changes through indirect visit, a great deal of field works has been performed and the situations were controlled and compared with GPS unit. The results obtained from comparing the map of changes intensity incurred in vegetation cover and land uses and its comparing with dispersion map of hillside movements indicates that the frequency of slope instabilities have a correlation with the areas exposed to vegetation cover and land use changes. Construction activities particularly with the aim of residing and second houses around Tehran, also the increase of rural population has developed rapidly during the recent years. This development has caused the great use of hillsides or trenching, leveling and disturbance of their balance in order to decrease the slope and consequently removal of vegetation cover have been the main cause of instabilities during the recent years.

Key words: Ahaar Basin, Remote Sensing, Hillsides, Morphodynamic, Vegetation Cover, Land Use.

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Prioritization of Tourism Capacities of Rural Areas in Nir Township

During recent decades, rising unemployment and consequently departure of young and educated people from rural communities has endangered the texture and structure of rural communities. In this respect, tourism is not only considered as a potential tool for changing this condition, but also as one of the inseparable factors of rural development strategies, and as a powerful strategy with relative and pure advantages can lead the economical affairs including job creation and employment, investment and population toward villages and natural environments. Regarding this approach, the main important role of tourism in the areas like the above case study, can be a movement toward regional balance and equilibrium. But in such process of economical and social movement, investment in the areas with tourism advantages is important and can not been realized unless an appropriate selection is being made among the tourism areas in order to provide the conditions for development and progress of whole the area, and use of prioritization techniques and models is required for achieving this goal. This paper, through indicating this question that which of understudy rural areas has advantage based on the priorities of tourism capacities, tries to find the required scientific answer by the use of analytical and descriptive method and TOPSIS model. The findings show that among 30 surveyed villages, the villages with more environmental attractions (including Sagezchy, Shiran, Windkalkhoran, Borjloo, Golestan, Gogerchin) have higher priority.

Key words: Prioritization, Tourism Capacity, Rural Areas, TOPSIS Technique, Nir Township.

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Study the Process of Annual Soil Temperature in Yazd Station

The main objective of this research is to study the process of deep soil temperature in Yazd station. For this purpose, the daily temperature of soil in Yazd synoptic station was selected at depths of 5,10,20,30,50 and 100 cm from the earth surface at 03,09 and 15 GMT o'clock in a 5 years statistical period (2001- 2005). The results indicated that the most oscillation amplitude of daily temperature is at the layer close to the earth surface (5 cm depth) at 6.30 o'clock in April which continually decreases with depth increase, so that reaches to minimum at depth 100cm in August. Also at depth of 5 and 10 cm, maximum temperature happened in July, while at 10 cm depth with a time delay of one month happened at the ending days of July.

Also Minimum temperature at higher depths (5,10 and 20 cm) happened at the late December and at lower depths gradually happened up to middle of January, which shows that maximum daily heat reaches to a specified depth later than the minimum ones.

Key words:Yazd,Soil Temperature,Thermal Process,Daily Oscillation Amplitude, Soil Depth.

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Review the Trend of Changes for Development Grade in Rural Areas of Sistan & Baluchestan by the use of Numerical Taxonomy During the Decades of 1996 and 2006

Providing the situation for the enjoyment of different welfare and infrastructural services, social, cultural and health facilities is of the main planning indices in each planning unit and particularly rural areas. The aim of this research is to study the degree of development in rural areas of Sistan & Baluchestan province at the level of township and district in the two time periods of 1996 and 2006. On this basis, 35 developmental indices including population, infrastructure, economic, social-cultural and health were defined and analyzed by numerical taxonomy method. The findings show that during the time period of 1996, most of the province villages have been located in semi developed and undeveloped areas, so that, only 14% of the province villages have been located in developed areas and 86% in semi developed of undeveloped areas. In addition a developmental gap is evident between inter township and inter districts. Development of rural areas of the province during year 2006, except in Zabol township and its surrounding areas, in other areas and districts shows that it is a growing trend, so that in this year, 54 villages have been located in developed class, 30% in semi developed and 16% in deprived class. However, the detailed results show an imbalance in this growth as, changing the location and development class of villages has been mainly in central part of townships. In fact this imbalance particularly leads to the difference of development situation of rural areas of central part of each township with its other parts. This reflects the stability of regional imbalance and also the lack of equal distribution of facilities in the area.

Key words: Rural Development, Numerical Taxonomy, Development Indices, Sistan & Baluchestan.

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Appraising the Capabilities of Maraghe Urban Development by Using Compound Model SWOT-ANP

Developing cities like their industrial counterparts are faced with distinguished uncertainties. Most of cities are faced with the management of the great and high population growth rate and now are not capable to continue and guide the current situation. Most of the cities of developing world have a weaker performance than their potential capacity. These cities have a weaker performance due to losing opportunities for their population and implementing non legal development for their area. Therefore for the uncertain and competitive economic environment, the developing cities require discipline for effective use of their limited financial and human resources in achieving their goals. With respect to the rule of environmental endogenous development, the main purpose of this paper is to evaluate the capabilities of Maraghe urban development for selecting the most appropriate strategy for its future development.On the other hand, the aim of this paper is to select an appropriate development strategy to promote the city capability for optimum use of their environmental capability and capacity. Objective based research method is the functional research method and study method based on method and nature is analytical-descriptive research. For collecting information, the library, documentary, direct observation and interviews were used. Based on the research results, the best strategy for Maraghe urban development would be the strategy for development of higher education and universities in the city and changing Maraghe in to a collegiate town, mean while the strategy for strengthening tourism performance of the city is considered as a substitute strategy.

Key words: Appraisal, Urban Development, Strategy, ANP Model, Landscape, Scenario, Maraghe.

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Assessment the Sustainability of Rural Development
Case study: Kamijan Township

The process of social, economical and cultural changes during the last decades of Iran and diversity of geographical bed has formed an imbalance spatial system at rural settlements. Although hierarchical strengthen of settlements has a great importance for optimum organizing of rural areas, but in developmental programs, for the realization of this important issue, favorable and optimum results have not been achieved due to emphasize on service indices. The present paper, through the use of multilateral approach and in the form of analytical-descriptive and correlation method, intends to determine the development sustainability level and the effective factors on it in 49 rural settlements of Kamijan township. Gathering the data through questionnaires in a sample volume of 430 people and combination and incorporation of criteria and analyzing data by the use of weight indices and proper tests has been performed in spss soft ware. Based on “t student “test the stability level of all settlements is significantly less than what expected. Multi variable regression results showed that the social aspect with determinant factor of 0.752 has had the most influence on sustainability level of the settlements. Based on the findings of factor analysis technique for stabilizing understudy settlements, the promotion of people partnership in social decision making, ease of access to health, education and economic services, strengthening the houses, organizing disposal of waste material, increase of production efficiency and the employment level are inevitable issues.

Key words: Sustainability Assessment, Environmental, Social and Economic Assessment, Kamijan Villages.

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Monitoring the Vegetation Cover Changes by Using Remote Sensing Techniques in Ilam Dam Basin

Monitor of change is generally performed for evaluating natural processes including long term effects of climate change which is caused by astronomic reasons and also short term processes which includes the succession of vegetation cover and geomorphologic processes. Also change monitoring is used for evaluating the effects resulting from human activities including deforestation, agriculture and urbanization. As the environment changes reflect the situation of lands management, monitoring methods can help to evaluate these operations. In this study, measuring images (MSS) of year 1976 and land sat (ETM+) year 2002 have been analyzed by four techniques of change monitoring in Ilam dam basin with an area of 476.751 km2. Techniques for monitoring changes used in this study include the image difference, image rating, analysis difference of the main component and analysis difference of standardized main component. Since the change monitoring techniques used in this study require the threshold, and on this basis it is determined that the change threshold on the under study area has been placed with +deviation from mean, After specifying the change threshold, the areas with decreasing, increasing and without changes have been determined. For evaluating the accuracy of change monitoring techniques, after surveying the ground realities, which obtained though field visits and Google Earth Satellite images, the total accuracy and Kappa coefficient were used. Based on the obtained results, it was determined that the difference method of red band with total accuracy of 89 and Kappa coefficient of 0.82 has the greatest accuracy among the used change monitoring techniques in his study and rating method of the near infra red band with total accuracy of 64.5 and kappa coefficient of 0.34 has had the least accuracy in monitoring changes of vegetation cover in the area under study.

Key words: Change Monitoring, Remote Sensing, Image Difference, Image Rating, Analysis of Main Component, Change Threshold.

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Quantitative Analysis of Lithology and Tectonic Effect on Longitudinal Profile of the River in Catchment Area of Mahabad River

The river morphometric has been reviewed by using topographic maps, digital model and field data for determining the role of lithology and tectonic changing resistance on longitudinal profile of Mahabad river catchment area in south part of Urmia Lake. For this purpose, the basin was divided in to 5 (five) parts. Streams were ranked based on Astraler method. In order to determine the fractures, the longitudinal profile of each class was adjusted with geology and tectonic formations from 1:100000 geology maps. The obtained results showed that in Daras and Agri limits, changing from one resistant lithology to a nonresistant lithology has caused a clear and distinguished fracture in longitudinal profile and the breaks can only be seen in the formation borders which indicate the high effect of lithology on longitudinal profile. In Kootar and Bytas areas, the fractures can be seen inside the lithology and there in no fracture at the formation border. Based on geo tectonic index, Kootar and Bytas limits has more tectonic activities in comparing with the other areas, so that it is understood that the relationship between the afflux due to tectonic and the effect of bed rock on the longitudinal profile is reversed. Therefore tectonic afflux reduces the effect of bed rock on longitudinal profile.

Key words: Longitudinal Profile of River, Tectonic, Quantitative Analysis, Mahabad River.

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The Effects of Climatic Forming Systems on Landslides of Iran

Land sliding is one of the natural disasters which its occurrence depends on the function of other factors. This phenomenon like other earth disasters is not naturally a disaster, but it is considered as the required processes for changes of the earth roughness, which the presence of human around this occurrence shows it as a disaster. Generally, in the study of land sliding, the factors such as land material, precipitation, change of slope gradient, earthquake, volcano, oscillation of underground water and human activities are studied in the form of different models. Although the above said factors have a great role in occurrence of such phenomenon but the necessary and sufficient conditions for occurrence of such phenomenon is the history back ground of the lands bed which has experienced special forming processes. Comprehensive studies have been performed in Iran about the distribution, dispersion and the cause of such occurrences. In this paper, happening of this phenomenon has been reviewed from a different aspect and it is tried to reveal the relationship of forming mechanism and their effect on stimulation of such instabilities, so that it can be concluded that distribution of this phenomenon is related on one part to climatic happenings and on the other part to historical forming processes. Based on one of the methods of climatic-morphology zoning, Iran can be classified in to 4 different areas of cold, warm, humid and warm-humid areas which each of these areas have special geomorphic specifications, and have direct and indirect effects on occurrence of land sliding. In order to study these effects, the dispersion map of main land sliding of the country from one part and morphology systems from another part were prepared b Arc GIS 9.3 software and through location analysis of these two sets, their proximity relation has been evaluated by location-statistical methods. The findings of this research showed that 92% of land sliding has been occurred in cold and humid pits and only 8% happened in warm pits. Furthermore, the land sliding density is more at thermodynamic border of warm-cold and humid-cold pits.

Key words: Land Sliding, Warm Pit, Cold Pit, Humid Pit, Morphology System.

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Analysis of Spatial Patterns of Crime in Informal Settlement Areas of the Cities

Case study: Informal Settlement Area of Bisim in Zanjan City

Informal settlement area of Bisim is one of the large informal settlement areas of Zanjan city, which is formed and expanded during the last two decades due to uncontrolled and irregular immigration of rural people. This area from the view point of physical specifications is faced with great problems and insufficiencies.
Physical abnormal properties together with population and social characteristics dominant on this area have caused this area to be a distinguished concentration place of crimes of Zanjan city.
This study has been conducted to the aim of analyzing crime spatial patterns; review the factors affecting the incidence of crimes in Bisim area and to identify the conditions facilitating the crime in this area. The present research methods is analytical –comparative and for analyzing crime spatial pattern in Bisim area, two statistical methods of clustering test (closest proximity index) and kernel density method in GIS environment have been used. Statistical society of the present research is all the crimes happened in one-year period in Bisim area.
The findings show that the most important centre of crime in Zanjan city is conformed to informal settlement area of Bisim. High rate of residential usage, lack of some requirements of citizens including green spaces, educational, health and civil facilities and lack of some necessary usages including cultural, sport, spending leisure time usages and also lack of disciplinary usages which has made difficult the formal supervising on this part of the city, have been effective in formation of such crime spatial pattern in this informal settlement area.

Key words: Informal Settlement, Crime, Spatial Pattern, Zanjan, Bisim.