

# ABSTRACTS

## **The Analysis of Physical Resilience Against Earthquake in Old Texture of City Zahedan Boarder City**

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Border city of Zahedan, center of Sistan-Baluchestan province in Iran South East Near the border Iran and countries of Afghanistan and Pakistan. is a fundamental fault with a length of 120 km along the north-south ward that passes an area near of Zahedan city and put this city at the risk of earthquake. The purpose of this study is to analyze the physical Resilience of the old texture of Zahedan border city against Earthquake by 8 criteria including construction materials, building's age, number of floors, building density, population density, access to open space, quality of buildings and area of the parts. The study is of descriptive-analytical one and has been conducted in two methods of documents and surveying .The analysis of the obtained findings showed that the rate of physical Resilience of old texture against earthquake shows that the index of construction materials, regarding its importance against earthquake has assigned itself the highest point and is equal to 0.286. The earthquake experience indicates that the type of used construction material in the structure has showed a greater rate of resilience against earthquake, so that as much durable material is used, its resilience against earthquake will increase. The second priority is the quality of building which its score is 0.228 and its lowest score is for the area of parts (0.023). Also based on the performed studies, lack of financial capability of the residents for optimization and renovation of the building has accelerated the destruction trend of the existing buildings in the texture during the recent years. And with respect to the seismicity of this area, the promotion of qualitative conditions of the area shall be reviewed. This issue necessitates more attention to the concept of physical resilience for increasing its capability against earthquake especially at the north and south east parts of the old textures.

**Keywords:** Resilience of Phyaical, Earthquake, Old Texture, City Border Zahedan.

## **Prioritization of Factors Influencing on Implementing Green Supply Chain Management in Tourism Industry**

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Studying the adverse effects of thoughtless development of tourism on the environment has allocated significant proportion of recent geographical studies. Adopting new approaches to the management and utilization of natural resources of tourism spaces is much more necessary. Foundation of these approaches should be in a way that besides providing various needs and welfare of the people, dynamics and the health of the natural environment should be maintained for future generations. Considering the "Green Supply Chain Management" is due to realization of the importance and necessity of environmental considerations in tourism development. Implementing green supply chain depends on internal and external factors. Identification of these factors and awareness of the importance of each of them is the first step for managing this chain. For this purpose the description- applied research methods were used. The population of the study, involves experts in environmental issues, green supply chain management and sustainable tourism. Achieving valid results, 20 experts were appointed. Experts were selected using snowball sampling. In this regard, the questionnaire was designed in paired matrices and was used for rating by experts. After initial design of the questionnaire, to reduce interdependence between questions and increase the reliability and validity, view of academic experts, scholars and professionals were asked. To assess the reliability, inconsistency ratio of paired comparison matrices was used. According to the results of the data analysis, the inconsistency ratio of all comparisons were smaller than 0.1, then the reliability of the questionnaire was approved. One of the multi-criteria decision methods named Analytic Network Process (ANP) was used for analyzing collected data by super decisions software. According to the experts, in the implementation of green supply chain management in tourism industry, the external factors are more important than internal factors, and legal structure is the most important factor as an external factor.

**Keywords:** Tourism green supply chain management, Tourism sustainable development, Analytic Network Process (ANP).

**Study the Changes of Land Use by the Help of GIS & RS**  
**Case study: Andimeshk city**

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Increasing population growth in many cities has made changes in the land uses and physical shape of the cities. Studying the land use changes of cities and study of their causes during different time periods can be effective on urban managing and natural resources management. In this study that has been applied in southwest of IRAN, Andimeshk city, by using Landsat 5 & Landsat 8 images of 1985, 2000 & 2013 as the source of data, and by describing images via supervised classification with maximum likelihood algorithm, land use changes between years 1985 and 2013 were calculated. Results showed that area of ranges has reduced and the area of urban regions, agricultural lands and water covered areas has increased between 1985 and 2013. Among all of land uses, ranges had the most changes (17905.09 ha reduce) and urban regions had the least changes (2840.97ha increase).

**Keywords:** Remote sensing, GIS, Land use, Change detection, Supervised classification.

## **The Study and Analysis of Geometrical Variations of Longitudinal and Cross Profiles of Qaresou River During 1954-2014**

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The plan of a river shows many geomorphological and dynamic characteristics of the river. In fact, the longitudinal and cross profiles of the river and especially the rate of its concavity depends on different parameters such as centralization of discharge material gathered from the drainage network to the main channel of the river, erosion of channel, lithology, topography and tectonic factors of the basin. Clearly by changing these parameters, the plan of the river will change. The goal of the research is analyzing geomorphological changes of longitudinal and cross profile of Qaresou River during 1954-2014. At first, due to high length of the river (about 400 km), the river was divided into five segments and then for drawing the longitudinal sections of the river, satellite photos of PAN IRS, elevation model (DEM), topographic map of the area 1:50000 and Arc Gis map were used. Findings show that the longitudinal profile of Qaresou river is relatively regular and uniform, which has multitude meanders. Also, the general form of the Qaresou River is concave and has diverted toward the downstream than primarily origin in a way that its diversion rate will reach to 50 degrees at the fifth segment. Also from the view point of latitudinal profile, the river has had a reducing trend within the last 60 years ago. During this time period, the most rate of change has been observed in segments 2 and 5. Results show that the river tendency is toward the increase of sedimentation and decrease of erosion in the most parts that shows the steady state equilibrium of the river.

**Keywords:** Qaresou River, River Geomorphology, Longitudinal profile, cross profile, Geometrical changes.

## **Study the Effects of Renovation on the Transformation and Change of Life Style in Rural Households at Central Part of Poldokhtar City**

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Modernization and renovation process has had different effects on human life and These effects are more tangible in rural communities than the cities. The purpose of this study is to investigate the effects of renovation and modernization on the life style changes of rural households in the central part of Poldokhtar city. The research method is descriptive-analytical type and the data gathering method in theoretical studies is library and filed studies and also through questionnaire. The statistical population of the research includes the heads of households at the central part of Poldokhtar (N= 6874). 360 heads of households were selected through Cochran formula and simple random sampling method as the community. For the analysis of the data, chi-square tests, regression and linear regression were used. The results of the research findings about attitudes towards the modernization of rural households through chi-square test shows that Modernization and renovation effects of all the studied items is approvable from the view point of respondents.

Also the study of renovation effects on the life style of rural people by regression shows that renovation has had great changes on the social, cultural and economical life style of rural households and their tendency toward the style of urban life. Among the components of lifestyle, modernization had had the greatest impact on the change of cultural life style; So that has changed the cultural and linguistic patterns, ,behavior patterns, type of clothing and national costumes, especially between young people. It can be said that the best way to achieve rural development is paying enough attention to local culture that has the most appropriate compatibility with situation of each region and Due to its compatibility with local communities to achieve the sustainable development is much easier than the use of modern and advanced technology.

**Keywords:** Modernization, Lifestyle, Social and economic developments, Rural development, Poldokhtar city.

**Investigation and Evaluation of the Role of Implementation of Hadi  
Plan in Tourism Development of Touristic Villages  
Case study: Savar Touristic Village in Bonab County**

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Preparation and development of Hadi plans in touristic villages is important from two aspects: firstly the success rate of Hadi plans depends on the environmental and human conditions and secondly, the touristic villages depending on their special function, require the performance of developing plans in appropriate with their tourism function. This study aimed to identify and analyze the effects of the implementation of Hadi plans on the development of Touristic Villages from the views of three groups of touristic villages residents, tourists and villages' residents with no tourism. This research from the mature point of view is of quantitative one and from the view of control of variables is of surveying type and from the view of gathering data is of field type. The statistical society of this study is all the heads of households I of Savar village (N =72). In addition, to observe the principle of equality, 72 tourists that entered in to this village and 72 rural residents of non-touristic village of Algho has been selected by simple random sampling method. Questionnaire was used to collect the data. Validity of questionnaire was confirmed by a panel of experts and researchers in this study. To determine the reliability of research in each of the groups, 45 pre-test questionnaires were conducted. Cronbach's alpha calculated for the scale of the questionnaire for touristic village was obtained 0.874, tourists 0.886 and non-touristic Villages 0.901. The results of this analysis indicated that expectations of three groups about structural- physical, social, health, economy and environmental factors is different. A total of 73.5 percent of the total variance explained by the effects of implementation of Hadi Plans. In addition, according to results of Anova test, there is a significant difference between the expectations of groups and the supplementary- pursuit tests showed that the greatest difference is between the groups of tourists and the lowest gap is between the two groups in rural areas. Finally, with regard to findings, functional suggestions were presented and discussed in respect of the improvement of the conditions of the existing plans.

**Keywords:** Hadi Plan, Rural development, Touristic villages, Local communities, Savar village.

**An Analysis on the Status of Sport's Furniture in Increasing the Vitality of Urban Spaces**  
**Case study: Norabad of Mamasani**

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The city and its spaces are a bed for the individual or group activities of citizens who receive various activities. Citizens' activity in urban spaces cause the communications and human interactions and creates the sense of place. On the other hand, the presence of civilians in urban areas will increase its vitality. One of the effective factors for encouraging the citizens' participation in urban areas and increasing their vitality is the sport's furniture in these areas. Hence, the purpose of this study is investigating the role of sport's furniture in increasing the vitality of urban spaces in Norabad city of Mamasani. Type of the research is descriptive-analytical one. The method for gathering data is documentary- surveying and deductive and inductive one. The research results suggest that among the under study indicators and criteria, the greatest effect of sport's furniture on the urban vitality is on the increase of mental- physical health the of people; social interactions and create a sense of belonging to place among the people; and enjoyment of the sport facilities at different times, that their average is 4.27; 4.13 and 4.07. Respectively. T -test results also showed that among the studied components except of the two criteria of diversity of activities in the park and forming different elements of beauty in it and availability of sport facilities and goods and reduce the incidence of diversionary among youth with Tvalues of 1.81 and 0.65, the sport furniture has caused the increase of 11criteria of vitality in urban spaces.

**Keywords:** Vitality, Viability, Furniture, Urban space.

### **Distribution Modeling of Protective and Valuable Plant Species in the Tourist Area of Polour Using Generalized Linear Model (GLM) and Generalized Additive Model (GAM)**

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The prediction models of geographical distribution of the plant species are probabilistic and static models. They determinate the mathematical equations governing on geographical distribution of species with their current environment and environmental factors effective on the distribution of species. The aim of the current Study is to review the performance of Generalized Linear Model (GLM) and Generalized Additive Model (GAM) in determination of the relationship between vegetation and environmental factors in Polour rangeland. Stratified random sampling method was used. Five dominant species include *Astragalus ochrodeucus*, *Ferula gumosa*, *Thymus kotschyanus*, *Onobrychis Cornata* and *Agropyron Sp* were identified. the studied environmental factors were including 13 soil characteristics, 3 topographic factors and 3 climatic factors. The analyses were performed using Presence-Absence and GRASP package of R software. Also for evaluating the performance of prediction model, the statistical coefficients including AUC, AIC, RMSE and  $R^2$  were used. The results showed that the highest  $R^2$  in GLM model is related to presence of *Agropyron Sp* with 0.98 and also the lowest RMSE and AIC is related to *Astragalus ochrodeucus* with 0.29 and 12 respectively. Also in GAM model the highest  $R^2$  is related to *Thymus kotschyanus* with 0.98 and the lowest RMSE and AIC is related to *Astragalus ochrodeucus* and *Ferula gumosa* with 0.22 and 18.12 respectively. ... Also the highest AUC in GLM model is related to *Onobrychis Cornata* and in GAM model is related to *Agropyron Sp* with 0.86. Given the value of protecting and valuable plant species studied, the results of these models can be used in programs of conservation and improvement of the tourist area.

**Keywords:** Environment Factors, Generalized Additive Model (GAM), Generalized Linear Model (GLM), Polour rangelands.

**Assess the Physical Effects of the Rural Hadi Plans from the View Point of Villagers**  
**Case study: Karkhe district**

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Nearly three decades have passed from performing Hadi Plans in rural areas. For these projects, the national credit has been spent in different stages and its performance has created extensive changes in the areas of physical – space such as change in the physical texture of the village, change in the pattern of housing construction, coordination of rural road networks, and facilitate the traffic of villagers. The aim of this study is to assess the physical effects of the projects in the rural areas of the Karkhe in the county of Ahvaz. This research, based on the purpose is of functional type and from the nature and method view is of descriptive analytical one. The study focused on four aspects of housing, road networks, land use and environmental health. Data collection was carried out through integration of documentary and field methods and based on it, with respect to volume of statistical society ( 1333 households), the number of households based on Cochran formula has been obtained equal to 298 households. Analysis of the results showed that the effect of Hadi plan in the villages has a significant meaning in all four dimensions. On this basis, it can be concluded that performing rural Hadi plan will improve in practice the studied variables in rural housing, road networks, environment health and land use in Karkhe which means the creation of relatively appropriate and regular physical texture for rural settlements.

**Keywords:** Rural projects, Physical planning, Physical effects, Rural housing, Rural areas Karkhe.

**Assessment of the Role and Effect of Local Councils on the Improvement  
of the Citizen's Cooperation for Urban Management of the Local District  
Case study: Gorgan city**

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The current study with the aim of identifying the role of local councils in the urban local based management and planning, has evaluated the role of local councils in the increase of the citizens partnership of Gorgan city. The research method is of descriptive – analytical one and the data and information were collected by surveying method, and for the purpose of reviewing and development of the theoretical bases relevant with the research subject, two methods of library and field surveying were used and, Pierson correlation coefficient tests and multiple- factors regression of Enter method by using SPSS software were used for the data analysis. Statistical population of this study are the citizens of Gorgan city that in appropriate with the society volume, 330 samples has been completed for citizens' society by random sampling of regular or systematic type. The obtained results about reviewing the relationships between local consular's and cooperation of citizens by using Pierson correlation coefficient test showed that between these two variables with correlation coefficient 0.579 and significant level of 0.000, there is a direct and significant relationship. And can indicated at 0.99 of accuracy level, that by the increase and strengthening the function of local councils, the partnership of the citizens in the activities relevant with the urban management will increase.

**Keywords:** Local consulers', Urban management, Town auxiliary, Cooperation, Gorgan.

## Analyzing Spatial Relations of Extreme Precipitations of Western Iran

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Extreme precipitations at each point are those irregular precipitations which are situated in the trail and away from the focus point of the precipitation frequency distribution of that point. Recently, the thresholds and upward trails of precipitation frequency distribution have been greatly regarded. In this regard, and proportionate to the geographical properties of each zone, various and numerous thresholds have been introduced and applied for this precipitation property. One of the frequently-used indices of daily precipitation is based on generalized distribution of extreme values. In this research, extreme precipitations' threshold of western Iran have been determined using extreme values generalized distribution statistical methods, extreme precipitations of the region have been recognized, and their spatial distribution has been analyzed. To this end, network data resulted from daily interpolation of 69 synoptic stations and climatology for 1961-2010 statistical periods was used. Then by using generalized distribution method of extreme values, the daily precipitations of 22mm and more were selected as the Extreme precipitations. In order to recognize the distribution pattern and spatial relations of western Iran extreme precipitations (Hamadan, Kordestan, Kermanshah, Lorestan, and Ilam provinces), Global Moran's I statistic, Local Moran's I statistic, and Getis-Ord  $G^*$  statistic were used. The spatial pattern of western Iran precipitations is a cluster pattern, the significance of which was confirmed at 99 percent confidence. Frequency clusters and average clusters of extreme precipitations are compatible with each other in some regions including Hamadan and Kordestan provinces, but there were no relationship between them in some other regions. The most frequency and average of precipitation frequency was happened in Hamadan and Kordestan provinces. Based on the both indices of Local Moran and hot spots of the region's heights of the study area has had a recognized role in the extreme precipitation patterns with the high clusters. The result of the study showed that the frequency and average of extreme precipitation of western Iran is influenced by unevenness, the deployment of unevenness, as well as synoptic systems.

**Keywords:** Spatial analysis, Extreme precipitation, Spatial auto-correlation, Western Iran.

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**Explanation of China's Investment Geopolitical Consequences,  
in Gwadar Port in Chabahar**

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The issue of economical competition between the powers is one of the main problems of China and for this purpose, this country for opposition against the threats and enjoying the chances tries to release from the existing communication and geopolitical obstacles by investment at the strategic points of the area including Gwadar in Pakistan and be able to maintain his priority in the global economy through coping with the internal problems. china's investment in Gwadar of Pakistan has caused the promotion of geopolitical and economical weight of Pakistan and also has some impacts on the area including Chabahar Port in Iran. With respect to this subject, in this research it is tried to, while studying the geographical situation of the area and the effective geopolitical features in forming this contract, its effect on Chabahar port to be studied and analyzed. The research findings shows that the commissioning consequences of Gwadar port will impact on the national interest of Iran inside and outside of the country. The effects of such investment will cause some changes in the area that seems, if the strategy for using competition between the powers is not been considered and no action is made for development of Chabahar port, the national power of the country will be weakened.

**Keywords:** China, Pakistan, Gwadar, Chabahar, Geopolitical.

## Comparative Analysis of the Patterns of Informal Settlements

### Case study: Marivan city

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Informal settlements is one of the fundamental challenges of urban management and identifying the existing patterns in these settlements will help to manage this type of style of residence. This article attempts to analyze the existing patterns in informal settlements of Marivan city. Research method is descriptive-analytical and research area includes four informal settlement areas of Marivan city (Kosar, Tape Musk, Sardoshi, Tfynty). The sample size is 320 people which were selected randomly and based on the population share of four districts and the social, economical and physical characteristics of the under study locations were collected and analyzed. The results show that in terms of origin before migration, the highest percentage of rural migration was belong to Tefyny (49%) and in other neighborhoods, Sardoshi areas (%67 percent) Kosar (72% percent) and 64% percent were the non-immigrant residents and have come from other neighborhoods to this informal settlements. From the view point of social, economical and physical indices, the two informal neighborhoods of tape Musk, Kosar and Sardoshi have different characteristics. Also in inferential statistics based on Tavy- B Kendall test, the neighborhoods of Tefyny and Tapemvsk together  $R = .214$  And neighborhoods of Kosar and Sardoshi together  $R = .449$  From the point of view of economical, social and physical, there is a direct and significant relationship. Also based on U- mann Whitney test, comparison between the neighborhoods of the Tfynty and tape musk with Kosar and Sardoshi  $sig = .000$ , Showed that in terms of the features of (social and physical) there are significant statistical differences between the two groups. As a result, Kosar and Sardoshi have simultaneously a mix of the features of formal and informal textures and at the same time TapeMusk neighborhood and Tefyny have similar features with the other common informal settlements. In fact, we are faced with two types of pattern in informal settlements in this city

**Keywords:** Suburbia, Marivan city, Informal settlements, Suburbia patterns, Typology, Informal settlements pattern.

## **A Novel Ensemble Algorithm Based Model for Shallow Landslide Susceptibility Assessment Around the Bijar City**

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The accuracy and reliance increase and consequently reduction of uncertainty of spatial prediction maps of environmental hazards including landslides is one of the challenges facing with in such studies Therefore, the objective of this research is to introduce a hybrid model of data mining algorithm named Random Forest (RF)-Random Subspace (RF-RS) in order to enhance the accuracy of spatial prediction map of landslide-prone areas around the city of Bijar, Kurdistan province, Iran. Firstly, 19 affecting factors on shallow landslides in the study area including slope degree, slope aspect, elevation, curvature, profile curvature, plan curvature, solar radiation, stream power index (SPI), topographic wetness index (TWI), length-angle of slope (LS), land use, normalized difference vegetation index (NDVI), litho logy, distance to fault, fault density, rainfall, distance to stream, stream density and distance to road were identified. Then based on Information Gain Ratio (IGR), twelve factors among them were selected to be used in modeling. The elative importance of each factor was assessed by Random Forest (RF) model as well as Random Forest-Random Subspace (RF-RS) hybrid model. Kappa, Precision, Recall, and AUROC indices were used to evaluate the models not only for training dataset but also for testing dataset. Shallow landslide susceptibility maps of the study area were prepared using both models. The results showed that slope aspect in the RF model and slope degree in the RF-RS hybrid model is the most important affecting factor on landslide occurrence in the area. The model evaluation results indicated that both models are reasonable in application for shallow landslide susceptibility mapping. The findings also indicated that the percentage of area under the curve of ROC (AUROC) was 0.729 and 0.784 for training dataset by RF and RF-RS hybrid model, respectively, while these values were 0.717 and 0.771 for testing dataset. In conclusion, it can be claimed that the new technique (RF-RS hybrid model) is able to increase the accuracy of spatial prediction map of shallow landslides in the study area. This accurate map will help decision-makers to protect infrastructures of an area, to develop better land-use planning programs and to more effectively control sediments.

**Keywords:** Shallow landslide, Algorithm, Random Forest, Random Subspace, Bijar.