

## **A Study and Evaluation Impacts of Attachment to Place on Spatial-physical Reconstruction of Rural Settlements (Case Study: District Neh, City Nehbandan)**

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### **Extended Abstract**

#### **Introduction**

In the international literature, the interest for development and progress of rural societies has been highly increased as a strategy to improve the life condition, and is considered as the most important solution to solve the villagers' problems. However, in the beginning of the 19<sup>th</sup> century, along with the beginning of the monotonous growth of population and urbanization procedure in the late 19<sup>th</sup> century and the beginning of the 20<sup>th</sup> century, many of rural regions lost a majority of their population in advantage of small and big cities. One of the most important reason of this phenomena is decreasing the sense of belonging to the places in the rural regions. Place belonging shows the emotional relation of individuals toward geographic places. This relationship creates an emotional sense between the individual and his living place, while a type of belonging to the place is created in the individual due to these emotions. Therefore, one of the main basis for considering habitation stability and decreasing of immigration in rural planning and development is keeping the sense of belonging for the inhabitants of their living places. The belonging sense of everybody toward his living place and birth place may lead to significant growth effects on the rural society, which causes high quality environments in the rural regions. On the other hand, regarding the old history of most villages, the physical texture of most villages is old, which is in proportion to the economical, social, cultural, and technical conditions of those days. Obviously, regarding the evolutions of life conditions villages during time, the old texture does not coordinate with the necessities of the new life, which leads to decreasing life quality in these areas.

#### **Methodology**

The presents paper is considered as a practical study regarding the method, and analytical-descriptive regarding the method, while the data are gathered through two methods of field and documentary. The measurement tool of this study is questionnaire (structured and non-structured). The target society includes family heads of village of Neh Rural District in the

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central part of Nehbandan Township (N=12291). 344 families were randomly selected using Coceran Method (24 villages). In the first stage, the sense of belonging to place among the statistical samples are evaluated using T-test to analyze data. Then, Variance Analysis (ANOVA) is analyzed to evaluate the liner relationship between sense of belonging to place as the independent variable, as well as space and physical reconstruction as the dependent variable. Finally, the multi-purpose regression and way analysis are used to evaluate the effect of sense of belonging to the place based on the indicators of emotional belonging, place identity, social linkage, as well as perception and behavior on the space and physical reconstruction. The pretest was taken from a sample including 95 questionnaires to assess the stability.

### **Results and discussion**

Evaluating the amount of sense of belonging to place among the families of the target region in respect of four aspects show the high amount of place belonging in all target aspects. In such way that the effects of four aspects of sense of belonging to the place among families lead to the amount of villagers' staying in their villages, preferring to live in villages rather than cities, having properties in their living place, prejudice toward the village and try to removing of village's need thereby. One of the most important reasons for this is having close relations in their living place, having memory of there, passing childhood in the village, existing social values such as relations' graves, racial and relational interactions among inhabitants, which lead to increasing the sense of belonging to the place in their living place. Evaluating the linear relationship between place belonging and space and physical reconstruction show there is a completely significant coherence between independent variable and dependent variable. In such way that sense of belonging to the place has led to increasing construction. Evaluating the effect of sense of belonging to the place in space and physical reconstruction show the amount of significance is less than 0.01 for all variables. In addition, the values of BETA show one change unit on standard deviation in aspects of emotional belonging, place identity, social linkage, perception and behavior leads to change in the variable of space and physical reconstruction 0.179, 0.157, 0.189 and 0.135 respectively in the sample villages among the target area. It leads to increasing rural housing quality, improvement of rural foundation, reforming of rural texture, and passage network in the religion.

### **Conclusion**

Regarding the old history of most villages is in proportion to the economic, social, cultural and technical conditions of those days, which has a high damageability, and transformed to one of the main subjects, problems and disorders as well low quality of houses in the region. However, in case of those families, which have more sense of belonging to their living places, they established new constructions, which lead to change of physical and environmental. Therefore, in this study, the sense of belonging to the place in respect of space and physical reconstruction in the habitants of Neh Rural Districts are evaluated. The results of research in respect of assessing and evaluating the amount of sense of belong to space and space and physical reconstruction in villages of Neh Rural districts of Nehbandan Township show the high amount of sense of place belonging in all of target indicators. Results show that the sense of place belonging among rural families in the target region leads to staying of the population in the rural areas, which motivates people to comprehensively recover and reconstruct their home and local environments.

**Keywords:** Sense of Belonging, Space as a Physical Construction, Population Stability, Rural Development and Nehbandan Township.

## **A Critique of Urban land Management in Developing Countries (Case Study: Iran)**

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### **Extended Abstract**

In this paper, the previous studies (especially the last two decades) have been surveyed by using coding method of information of qualitative research. Indexes were determined, and then the indexes using the Delphi technique was adapted to conditions in developing countries. To assess current policies, responsible institutions for urban land management and people attending these institutions questionnaire was prepared and distributed. Findings in SPSS using path analysis, multiple regression analysis and SWOT methods were analyzed.

Results indicate that governments in developing countries in the area of urban land management face challenges including: lack of clear vision, highly centralized and non-participatory decision making, uncoordinated and sometimes contradictory and conflicting policies, uncoordinated institutions and absence of needed institutional capacity to perform the assigned duties. So, the approach for escaping from this situation is providing beyond institutional vision through participating all stakeholders, and consequently coordinated (integrated) policies in various sectors to achieve vision mentioned above in the time frame, through the institutions that are coordinated vertically and horizontally. Also devolution urban land management authorities and responsibilities for local institutions with institutional capacity building according to defined vision.

### **Introduction**

The developing countries are grappling with several problems in their efforts to achieve goals including: restricted sources for housing and service sector, defective performance of markets, Inefficient and often outdated means for appropriate, limited access of the low-income groups to land, the policies and control systems of a centralized government and consequently the irregularity in the behavior of a normal land market, insufficiency of land in appropriate positions and with appropriate price, inefficient development plan for governmental urban land, weak inner-government coordination and fragile coordination between the government and the private sector, centralized decision-making, inefficient usage of urban space, rigid and costly legal frameworks, inefficient centralized data systems, lack of security in the possession system, and high cost of transference. Hence, the main question of this study is what reasons are behind inefficiency of governmental policies in urban land management.

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**Methodology**

The data-based theorization is one of the qualitative research methods that can be applied in development of theoretical methods in different scientific realms. In this method, in addition to focus on development of theory based on field data, efforts are made for expansion of the theoretical method based on the collected data. The data-based theorization maintains unique features (in sampling, analysis of data, and attainment of theoretical sufficiency) that lead the researcher to analyze his data by application of the capacities of this methodology. Results of the analysis of qualitative data were assessed in accordance to the view of experts of the urban land management sector.

**Results and discussion**

Behind the specific vision is that the obligations related to urban land management in different aspects (land development, the land possession system, land applications, and land tax) are shouldered by numerous organizations. Therefore, the trans-organizational vision, which has been prepared with the participation of all shareholders, draws up the appropriate state of future urban land management, which each of the organizations (via preparation of the vision and inner-organizational missions, in addition to adaptation of policies and strategies) should lead to an appropriate status within the framework of the vision horizon.

Given that the following questions regarding the urban land management are yet to be answered in developing countries; what level of urban land applied rules and regulations are necessary for the efficient management of urban development in the swiftly growing cities? In what range of economic tools and in what scope of the state policies and plans should the policymakers rely upon for determination or control of terms of allocation and usages of land? Which is the optimal allocation of labor between the private and public sector, with due regard to provision of urban services and the accommodation of low-income strata? It can be said that the government's interference in urban land management as observed below doesn't take place in the appropriate manner.

The authority for decision-making should focus on the local realms and that the decisions would be made with the participation of all shareholders in the bottom to top form.

Each of the bodies in the urban land management realm doesn't maintain transparent and specific activities, which would prevent the presence of parallel organizations. These organizations cannot horizontally work with each other due to lack of trust among them. They cannot hold talks and reach an agreement, participate in decision makings and activities or present an opportunity for expression of each other's views and standpoints. Also, vertically, they cannot maintain a constructive interaction for accomplishment of the goals of the vision

**Conclusion**

There is need for preparation of a trans-organizational vision regarding the sustainable management of urban land in which the realms of interference of government in urban land management has been clearly defined. Hence, the presence of such a vision can set the stage for adoption of uniformed policies and the strategic move of the related organizations. To this end, the capacity of local organizations should be enhanced via delegation of authority, responsibilities, and sources, in addition to provision of the necessary legal arrangements. As a result, the local organizations with the decentralized authorities will maintain the bargaining ability of the regional and national organization for fulfillment of an optimal performance. On this basis, the policy adopted in each realm of urban land management should be coordinated

with each other and should also complement each other. Hence, the responsible organizations will act in coordination with each other. The terms of performance of organizations should be horizontally coordinated with organizations of other sectors. Also, vertically, there should be coordination between the hierarchy of national and local organizations.

**Keywords:** Sustainable, Urban Land Management, Developing Countries, Land Policy.

## **Social and Economic Effects of the Villages Fringed into Urban Areas on the Cities (Case Study: Ghajloo Village in Miandoab, Iran)**

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### **Extended Abstract**

#### **Introduction**

Social and economic development in urban areas can have positive or negative effects on professions, markets, livestock, and environment of the surrounding rural areas. Accordingly, disasters and deterioration in the urban areas can threaten the surrounding dependent rural areas. Urban sprawl and integration of the cities into the adjacent rural areas have influences on urban areas in terms of physical, social, economic, and cultural aspects. The mutual relationships between the urban-rural systems make them dependent to each other. The purpose of this research is to investigate the socio-economic impacts of the villages mingled into cities and also to examine the factors of urban sprawl of the Miandoab City.

#### **Material and methods**

This is an applied research in goal. It is a descriptive analytical study in methodology. We have used library and field surveys (interview, observation, and questionnaire) to gather needed data. The study area is the fringe of Ghajloo village into Miandoab City. According to statistical census conducted in 2011 by Iran Statistical Organization, the population of the village is about 3834 people in 884 families. The statistical sample of this study is 30 people of university professors and practitioners in governmental organizations as well as 187 heads of the families in the village of Ghajloo. The statistical sample has been determined by Cochran formula. To analyze the data, we have employed quantitative methods including exploratory factor analysis and multi-variate regression analysis as well as qualitative methods including participatory techniques and effect chart. The methods have helped us examine the hypotheses of the research.

#### **Results and discussion**

The results of the research have indicated that the most important effects of the fringe of the Ghajloo Village into the city of Miandoab is an increase in employment in service and industrial

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sectors of economy. Another important influence is a change in lifestyle of the people from a rural life into a urban life style and urbanism. (Table 1 and 2)

**Table 1. coefficients of social and economic indices**

Adjusted R <sup>2</sup>	R <sup>2</sup>	Correlation coefficient	Model
0.143	0.176	0.419	1
0.438	0.459	0.677	2
0.243	0.271	0.521	3
0.314	0.34	0.583	4
0.268	0.296	0.544	5
0.324	0.35	0.591	6
0.235	0.263	0.513	7
0.253	0.281	0.531	8

**Table 2. the effects of the urban fringe of the Ghajloo Village into the city of Miandoab**

Sig	T	Non-standard		Standard	Indices entered the model
		B	خطای استاندارد	BETA	
0	9.82	1.5	0.153	-	Intercept
0	5.77	0.09	0.016	0.293	Income
0	8.99	0.2	0.022	0.482	Employment
0.469	0.725	0.01	0.014	0.039	Land price change
0.073	1.8	0.059	0.033	0.102	Exploitation of production resources
0	-3.67	0.098	0.027	-0.201	Change in consumption pattern
0	8.003	0.249	0.031	0.452	Change in lifestyle
0.009	2.63	0.067	0.025	0.165	Attitude change in migration
0.127	-1.53	0.038	0.025	-0.083	Social cohesion
0			sig	36.83	F statistic

### Conclusion

According to the results, it can be concluded that the most important factors in urban sprawl of Miandoab were social-economic forces and that the political factors had the least impacts on development and sprawl pattern.

**Keywords:** urban sprawl, rural, rural fringe, Miandoab, Ghajloo.

## **Assessment of the Elementary Components of Mental Preparedness of the Families of Kerman City against Natural Disasters**

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### **Extended Abstract**

#### **Introduction**

Natural disaster cause enormous financial losses and life casualties annually. Given the special location of Iran and some of the cities in vulnerable areas in one hand and spatial importance of these issues for reduction of vulnerability and resilience against the earthquakes on the other hand, it seems necessary to prepare, in advance, families with the effects and earthquake situations. This preparedness can be a competent and non-expensive method to reduce the losses of the earthquakes. For now, in the study area the best strategy can be a good decision to make the societies resilient against the earthquake events. The purpose of this research is to investigate the mental and attitudinal preparedness of the families in Kerman City as the study area.

#### **Methodology**

To achieve the goal of this study, we have used a descriptive research method using correlation. The data have been gathered by library studies and field surveys by the help of questionnaire. The statistical population of this study is 141867 families dwelling in city of Kerman. The sample size is determined 350 families based on Cochran formula. We have also used cluster sampling appropriate to sample volume. Finally, after we have collected the data by the questionnaires, differences among the districts prepared mentally for the events have been tested using One Way Analysis of Variance. We have also tested the correlation between the mental preparedness variables and socio-economic classes using Pearson correlation coefficient.

#### **Results and discussion**

The results of this research have indicated that the values of mental attitude preparedness of the resident families are significantly different in four districts of the city. Overall, the families are not properly prepared mentally for the events in entire the city. The total average of the preparing variable of the sample families is low and equal to 54.55 in a 25-100 scale of scoring.

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The lowest and highest values of preparedness of the families are recorded in district one (60.88%) and district 4 (43.78%), respectively.

**Conclusion**

The results have indicated that there are significant differences among the families of the four districts in variable of preparedness against earthquake and their resilience. It can also be argued that the mental preparedness of the families is significantly correlated with their social-economic bases. Therefore, it can be argued that as the social-economic bases of the families are improved, they would be better prepared to face the disasters. In other words, in order to prepare the citizens mentally for the natural disasters, it is necessary to improve and enhance their social and economic situations.

**Keywords:** natural disaster management, earthquake, mental preparedness, family, Kerman City.

## **Effective Factors in Locating High-rise Buildings with an Emphasis on Environmental Sustainability (Case Study: Qazvin City)**

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### **Extended Abstract**

As a product of population growth and increased urbanization as well as insufficient land for construction, high-rise construction and vertical spatial development have increased unprecedentedly during the recent decades. This type of construction, considering its characteristics, despite its positive effects, faces restrictions and threats which result in several difficulties including heavy traffic, remote workplace, environmental pollution, excessive urban development on farmlands, and wasting time. In most cases, physical development is surpluses to population growth. Today, locating high-rise buildings is a necessity which is assigned much importance in urbanism due to the environmental issues and climatic conditions of an area. The case studied in this paper is the city of Qazvin. The purpose of this paper is to analyze the effective factors in location of high-rise buildings with emphasis on environmental sustainability in the city of Qazvin. The research method is descriptive-analytical and based on application and development. Results from TOPSIS model used in this study show that there is no pattern for location of high-rise buildings in Iran and disorganized criteria provided regardless of urbanism or effective factors lead to environmental degradation. Results also show that economic, environmental and physical factors and land use (0.695, 0.457 and 0.405) are in first to third place indicating their relatively high importance compared with other factors.

### **Introduction**

Construction of high buildings has always provoked controversy among architecture and urbanism scholars. High-rise buildings were constructed in order for optimum utilization of land in metropolitan centers but gradually, as cities expanded, more necessity for buildings in other urban areas arose.

Considering its approach, this study is applied- developmental with a descriptive- analytical method. The data was collected using library method and various statistical sources including nine main components; economic, managerial, socio-cultural, aesthetical, environmental, etc.

### **Methodology**

According to the method, problems are handled systematically and their different components

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are analyzed. Effective variables, acquired through descriptive and library methods, are identified, indicators appropriate for component analysis are set and variables are studied using TOPSIS.

Results from TOPSIS indicate that from nine studied components, economy is in the first place. Large size and less density of Iranian cities resulted in the use of suburban agricultural lands, porous urban land and harmful economic and environmental effects which impose heavy loads on government and citizens. Therefore, optimal use of available resources in the cities is necessary (Azizi, 2004: 137).

### **Result and Discussion**

Accordingly, the relationship between density, land price and housing is the main economic aspect of urban density standards. Due to the important role land price and housing play in house price, fluctuations in land price has a great effect on the area of land and house infrastructure and as a result building density. According to experts and elites, second component is the environment, so that, during recent decades, environmental sustainability has been considered as a sustainability aspect in high-rise construction which, according to some researchers, has been neglected as a result of land conditions and environmental problems occurred especially in third world countries. Land use and fabric are in the third place. Traffic is fourth component indicating its effect on locating high-rise buildings, since proper access is an important indicator of urban space utility in this variable.

Due to favorable weather condition and view, quiet space and adjacency to business areas, high-rise buildings of most cities including Qazvin are demanded a lot. Provided that there is no traffic and with normal speed of cars, the distance and time to pass major access routes for the city of Qazvin is reasonable.

Management is fifth component which can play major role in locating high-rise buildings, since proper planning and map for construction of these buildings depends on management which is very important to construct this type of buildings.

Society- population component is in sixth place according to which the density in high residential buildings in social aspects is discussed. High population density in space and high-rise buildings have negative effects including reduced human activities and resultant increased boredom and increased isolation which indicate reduced satisfaction levels from high-rise buildings forms and sizes .

Cityscape is seventh component in which the function, identity and beauty of buildings are very important. In terms of function, Lynch believes that an open landscape of public buildings, which lead to more relationship between people, can be welcomed by public, otherwise they will be ignored. Hence, the function of such buildings in cityscape is important. By aesthetical aspect, physical aspect of buildings in cityscape and by physical aspect of high-rise buildings, their form and effect on cityscape are intended.

Climate is in ninth place and the type of climate is discussed in it since position and direction of buildings are very important.

High-rise construction has been used for over half a century in metropolises. Building high residential buildings and towers in high and semi-high and also attached and detached forms in various cities prove the claim. Qazvin was no exception and towers have been built in various parts of the city with different purposes. Rapid and uncontrolled growth of population followed by excessive demand for house as well as preventing horizontal development of cities made high-rise building a solution to land problems.

**Conclusion**

Results show that there are effective factors in locating high-rise buildings including; socio-cultural, fabric and land use, transport, climate, economy, cityscape, population and environment. Findings showed that economy (0.695) was the first and most important component considering its corresponding costs. Environment (0.457) was second. A sustainability aspect in high-rise construction is considered in this component which has been ignored, according to some researchers, due to land conditions and environmental problems caused by human activities especially in metropolitan areas and more attention is required when implementing urbanism plans, since some scholars believe in environmental sustainability as the main goal of sustainable development. Fabric and land use was in third place (0.405). Therefore, these three components had the highest impact and importance compared to other components that represents their priority in locating high-rise buildings to minimize scale-based economy, land saving and other problems.

**Keywords:** Location, Large Cities, High-Rise Buildings, Environmental Sustainability, Qazvin.

## **A Study of the Effective Factors on Urban Sustainable Development with Emphasis on Digital Divide using FL Micmac (Case Study: Tabriz, 2018)**

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### **Extended abstract**

#### **Introduction**

It is increasingly recognized that the information revolution has far-reaching economic and societal impacts. At all levels, governments are relentlessly searching for strategies to respond to the new realities. In the last few years, an increasingly popular strategy has been to speed up the adoption of ICTs (information and communication technologies) by citizens and companies the view being that higher levels of ICT adoption can contribute substantially to sustainable social and economic development.

However, the diffusion of ICTs drives access to information and knowledge: the inequality of distribution of ICTs within or between societies may have a very unequal impact on economic development which is so-called digital divide. The digital divide has become an extremely important issue for many international organizations and a major challenge for policymakers and academic researchers.

Narrowing the digital divide is a key for increasing the level of literacy, employment and development in any country and community. This paper is concentrated on assessing the impact of digital divide indicators on urban sustainable development in Tabriz city of Iran. City of Tabriz with the population near to 2 million people due to the being selected as the tourism capital of Islamic world in 2018 is selected as the case study.

#### **Methodology**

According to objective of the research and identifying the impact of some variables on the whole system, Fuzzy Linguistic Micmac method is selected due to exploring direct or indirect effects.

In the current study, we use new methodology derived from MODO1 named FL Micmac. It is intended to uncover the most related variables in a system by employing a linguistic version model of the Cross Impact Analysis method by creating a scenario. According to Porter in 1985, a scenario is an internally stable perspective of what future is similar to be - not a forecast, but a

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feasible future consequence. A definition is given by, that emphasizes on this fact that views reflected by scenarios can be served as a foundation in decision making at the present time. To get such consistent definitions, other methods are required to supply an apparent understanding of the systems we tend to evaluate, which are typically complicated and formed by many interdependent factors or components. This technique is Fuzzy linguistic Micmac which is presented first time in urban studies to indicate the outcome of the impact analysis of the integrated system including both digital divide and urban sustainable development variables.

The first step for this new model is to determine the set of linguistic labels (defined by fuzzy triangular numbers for example) that will be used to establish the degree of influence of one variable on another. Secondly, the experts use these linguistic labels to set the influence degrees for each pair of variables. Then, from the superior and inferior ideals (the ideal cases in which all the non-null influences degrees defined by the experts are set to the higher and lower label, respectively) a new set of linguistic label is defined for the global influences and dependences. We should note that these labels provide information in absolute terms.

To establish the linguistic label that corresponds to each variable, an aggregation operator is applied. The information obtained from this operator allows ordering and plotting the variables in an analogous way to MICMAC. This information together with the linguistic labels associated to each variable permits to analyze the results from a relative and absolute point of view.

### **Results and Discussion**

However, as we explain next, FLMICMAC provides more accurate rankings since it takes into account the underlying vagueness of the aggregated experts' judgments. Let us focus on the five top ranked variables in terms of direct or indirect influence/dependence:

1. Direct Inf: Literacy, disability and physical capabilities, restrictions imposed by the government, age, local facilities.
2. Direct Dep: English language skill, literacy, geographical location, economic opportunities, and educational opportunities.
3. Indirect Inf: Literacy, restrictions imposed by government, disability and physical capabilities, age, local facilities.
4. Indirect Dep: English language skill, literacy, economic opportunities, geographical location, educational opportunities.

As it is apparent, some variables of digital divide have much direct/indirect influence/dependence on the global system.

### **Conclusion**

The digital divide can never be contained in isolation but the efforts have to be multi-dimensional and multi-pronged. ICTs are of the enabling tools to bridge digital divide. Creation of ICT infrastructure and content are core methodologies and a thrust to technology growth in a planned manner will certainly lessen the gap. While digital divide is an issue of recent concern, technology divide has been an issue for much longer. There are two approaches to enable a wider population to benefit from technology and information revolutions; one is to enhance level of literacy (basic, functional technology and computer education amongst masses) which this issue became the most effective factor in the current research and another is to design appropriate IT tools around the capabilities of users that employs audio/visual input/output, without need to be literate; low cost telephony and data communication.

By exact consideration on the obtained results and evaluation of them, it could be concluded the investing on both education and e-infrastructure particularly in low income settlements besides empowering the economic condition of people can change the digital divide to digital opportunity and move the urban community of Tabriz toward high quality of life and ultimately sustainable development. This paper is only a first step, in that we have analyzed the impact and effectiveness of the digital divide. Further research is needed to develop successful strategies to lead Iran cities into the digital opportunities which may result knowledge-based urban development.

**Keywords:** Digital Divide, Structural analysis, FL Micmac, Urban sustainable Development, Tabriz 2018.

## **Analysis of Global Environmental Indices by Urban Sustainable Development Approach**

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### **Extended abstract**

#### **Introduction**

The plenty of conferences and symposiums in international and regional levels about environment show the concerns of the world about the environmental issues. There are always mutual relations between human activities and natural processes. Population growth and technological advancement are increasing the requirements of human societies. The sustainable development can be a solution for the ongoing processes. Urban expansion and development of Tehran City resulted in great changes in urban environment. The purpose of this research is to assess the urban districts of Tehran in terms of environmental indices.

#### **Methodology**

This is a descriptive analytical research. Environmental experts participated to fill the questionnaires. Some other data have been gathered by some organizational data. The criteria have been weighted using questionnaires results through Analytical Hierarchy Process (AHP) in Expert Choice. The results have been analyzed by statistical tests using SPSS. The outputs have been entered into ArcGIS for further analysis. We have also carried out Environmental Performance Index for the 22 districts of Tehran.

#### **Results and discussion**

The Environmental Performance Index for the 22 districts of Tehran is ranged from 49.2 to 72. This has indicated 10 districts are categorized as suitable and 12 relatively suitable. The highest population density is in district 10 with 36716 people in km<sup>2</sup> and the lowest is 17 with 31102 people in km<sup>2</sup>. The worst air quality is obtained in districts of 3, 7, 10, and 18 in an order. Other indices are waste water network conditions, public health, waste management, vegetation, built area, climate, and soil water conditions.

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**Conclusion**

The results have revealed that the southern areas of Tehran have more proper conditions compared with northern areas. It can be said that the most important problem of the city is air pollution. The environmental conditions of Tehran can be classified into four categories. The first category is related to the problems resulted from geographical location of the city. The location is influenced by geomorphological conditions such as great height difference from north to south and problems in weather issues. The second category of problems is related to rapid immigration to this city and physical expansion. The third category is related to social and economic functions in the city. The fourth category of the environmental issues of Tehran is resulted from organizational and institutional structure and incompetent urban management.

**Keywords:** Tehran, Environmental Performance Index, environment, sustainable development.

## **Modern Urbanism Principles in Islamic-Iranian Measures of Urban Planning (Case Study: Robat Karim Residential Area)**

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### **Extended Abstract**

#### **Introduction**

This research is to design a self-sufficient neighborhood for Iranian cities based on the principles of modern urban planning. One of the concepts is new urbanism in designing self-reliant cities. This kind of city is able to meet the present needs of the residents. This research is to interpret these modern principles through the basics of Islamic-Iranian urban planning. Therefore, the purpose of this study is to apply the principles of modern urban planning in accordance with those of Islamic-Iranian urban planning in designing and rehabilitation of the present neighborhoods.

#### **Methodology**

In this study, we have conducted library researches and document reviews in Islamic-Iranian urban planning and modern urban planning in case study for Robat Karim City. Then, the traditional characteristics of Islamic-Iranian cities have been compared with the modernism principles. The indices of modern urbanism are including Walkability, Connectivity, Mixed Use & Diversity, Mixed Housing, Quality Architecture & Urban Design, Traditional Neighborhood Structure, Increased Density, Smart Transportation, Sustainability, and Quality Of Life. The Islamic-Iranian urban planning indices are including stability with justice, unity in diversity, confrontation in evolution, logical flexibility.

#### **Results and discussion**

Most of the Islamic-Iranian urban planning indices are similar to principles of modern urbanism. In table 1 we can see some of the comparative results in the two ideologies.

For Robat Karim city, it is recommended to use some modern elements in the neighborhoods to enable the city to meet the requirements of the citizens.

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**Table 1. Comparative results in the two ideologies Islamic-Iranian urban planning indices are similar to principles of modern urbanism**

<b>principles of modern urbanism</b>	<b>Islamic-Iranian urban planning indices</b>	<b>No</b>
Relationship Diversified mixed landuse Diversified housing Traditional neighbor structure stability	Stability in justice	1
Walkability Relationship Increased density	Unity in diversity	2
Diversified mixed landuse	Confrontation in evolution	3
Diversified mixed landuse Traditional neighbor structure	logical flexibility	4

**Conclusion**

The results have demonstrated that the Islamic-Iranian urban planning indices are performing beyond the physical and temporal changes. The principles are contained in the present basics of new ideologies. The neighbors of historical cities of Iran were developed based on the historical norms and rules which are contained in the statements of one of the modern ideologies, modern urbanism. Therefore, these traditional principles can be applied in designing new neighbors in the recent urban planning.

**Keywords:** neighborhood, modernism, walkability, Islamic-Iranian urban planning, self-reliant.

## **Analysis of Urban Tourism Spatial Pattern (Case Study: Urban Tourism Space of Isfahan City)**

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### **Extended Abstract**

#### **Introduction**

In recent decades, tourism has had a growing trend, and increasingly affected on national economies. Due to globalization, tourism importance is increasing and gets particular attention in economic and social development plans of countries, to have a suitable position in attracting tourist by using existing potential and capacities. In our country, planners and decision makers are trying to develop tourism. For example, in Isfahan, they seek to use geographical, historical, natural and cultural capabilities to develop urban tourism. Tourism patterns must be analyzed and discussed because by recognizing and exploring spatial distribution of tourism spaces, the city development can be leaded and also tourism can be developed. Spatial analysis with multi-criteria methods is used to explore these patterns and evaluate site selection of urban tourism spaces by using Geographic Information System. So, due to exploring the pattern of urban tourism spaces, the priority areas for future site selection and the priority areas for providing tourist's facilities will be specified. The aim of this study is to determine desirability of site selection of new urban tourism spaces in Isfahan.

#### **Methodology**

In this paper, descriptive- analytic method have been used. This paper is applicable, which will be done in a systematic sight because of interaction between tourism spaces and tourism development. For mapping, measuring and analyzing the spatial pattern of urban tourism spaces in Isfahan, data as type of new urban tourism spaces and number of tourists are collected. This data was in form of census statistics and maps. To analyze the desirability of site selection of urban tourism spaces, the maps of accessibility of slightly criteria (5 items) have been reclassified with the same weight and overlaid. By using M index, the spatial autocorrelation has been determined. Also by using G index high/low clustering of new urban tourism have been discussed. Cluster and outlier analysis and hotspot analysis also have been done by the factors of inverse Euclidean distance between new tourism urban spaces and rate of accessibility to tourism facilities. Natural neighbor analysis defined priority areas of future tourism space site

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selection; and by using mean center analysis the priority area to provide tourist's facilities have been specified. The study area is Isfahan city in the center of Iran.

### **Results and Discussion**

City tourism resources include 3 major parts; 1. primary elements of tourism: the main factors of attracting tourists such as historic streets, parks, monuments and places which are built for tourism activities, such as theater, art galleries and so on; 2. Secondary elements such as residential spaces, infrastructure and so on; 3. Other elements which guide and service tourists such as tourist guide offices etc. Urban tourism spaces have different classification based on activity, target, distribution and so on. Tourism spaces according to tourist attraction can be classified into 4 categories: Natural spaces, historical and cultural spaces, leisure recreational spaces and residential areas. Sometimes these residential spaces become part of attraction to attract tourists. According to statistics of Isfahan Cultural Heritage, Handcrafts and Tourism Organization, the newest urban tourism space in Isfahan is leisure recreational space.

Spatial analysis is one of the most reliable methods of location studies, because this method is essentially applicable, critical, seeker and evaluator. This analysis is one of first steps in any kind of environmental planning because of its comprehensive and systematic view. Urban spaces are one of the destinations for tourists and it should satisfy the tourist's needs such as accessing to hotel, road network, parking, green spaces to relaxing and therapeutic land use. To determine the accessibility of these 5 items, Data layers have been buffered in 3 range of access to the criteria reviewed. The layers have been reclassified in the same weight and overlaid. The JahanNama indoor amusement park had access to all 5 items reviewed and seems the best site selection for tourists. According to this analysis site selection of Jahan Nama indoor amusement park is quite favorable, Ghadir garden recreational complex, Nazhwan chairlift and reptile garden are favorable, aquatic complex, Soffeh amusement and City Center complex are unfavorable and other spaces are quite unfavorable.

### **Conclusion**

The spatial autocorrelation of new urban tourism has been calculated by Moran Index and the score was 0.73 at %95 level of confidence, this score is close to 1 that means site selections are spatially correlated, not sporadically, have an integrated relationship and also the distribution of new tourism spaces is symmetric. Cluster and outlier analysis showed that JahanNama indoor amusement park and Ghadir garden recreational complex are clustered and surrounded by similar spaces that are in same level of accessing to services; and other tourism spaces were not significant. G index was 0 that shows new tourism urban spaces are high clustered at %95 level of confidence. Finally, the hotspot of new tourism spaces was identified: JahanNama indoor amusement park; and other tourism spaces were not significant. This tourism space possesses all of the criteria investigated in this study. Due to analyses carried out, the central areas of Isfahan are prior for future site selection of tourism spaces with this distribution of tourist's facilities and infrastructure. And site selection out of prior areas need infrastructure to be able to develop urban tourism. The mean center analysis of new urban tourism unlike previous analyzes based on lack of access to needed services and infrastructure. This analysis shows the area, which needs to be equipped for tourists, services such as parkings or public transportation stations. This area is around southern half of Isfahan.

**Keywords:** Spatial Analysis, New Tourism Spaces, Site Selection.

## **A Comparison of the Performance of the Poisson and Multinomial Logit Models in the Spatial Transferability (Case Study: Household Work Trips)**

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### **Extended Abstract**

Trip generation is the first stage of the conventional four-step travel forecasting framework. One of the most important characteristics of travel demand models is transferability. The cost of collecting data for travel demand modeling is high and increasing each year. Spatial transferability of travel forecasting models can potentially help in significant cost and time savings for areas that cannot invest in extensive data-collection and model development procedures. This paper is to compare the performance of the Poisson and multinomial logit models in the spatial transferability for household work trips. The models are estimated for the Qazvin and Eslamshahr cities based on data from the 2009 Qazvin travel habits surveys and 2013 Eslamshahr travel habits surveys. The sample include econometric-social attributes of 4479 households in Qazvin and 3183 households in Eslamshahr.

The measures for assessing transferability are Transferability Test Statistic (TTS), Transfer Index (TI), Transfer Rho-Square, like Root-Mean-Square-Error (RMSE), Relative aggregate Transfer error (RATE) and comparison plot of observed and predicted aggregate trip shares.

Results show that Qazvin and Eslamshahr final models include three explanatory variables: number of workers, number of cars and interaction these two variables furthermore Transferability Test Statistic reject the null hypothesis of the two cities parameters equality for two models. Also, result show that from Transfer Rho-Square and Root-Mean-Square-Error multinomial Logit model has better performance in transferability and from Transfer Index and Relative aggregate Transfer error Poisson model has better performance in transferability between Qazvin and Eslamshahr. compare plot of observed and predicted aggregate trip shares indicate that Multinomial Logit model models have better performance in terms of comparison of predicted share of every trip rate level with observed share.

### **Introduction**

Trip generation is the first stage of the conventional four-step travel forecasting framework that estimates the number of trips to and from a traffic analysis zone. Using linear regression model is common in this step and generates an acceptable level of performance from the perspective of transport planning, however this model does not incorporate traveler behavior, integer and non-

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negative nature of trips. To overcome these limitations, several models have been suggested: count data models such as negative binomial and Poisson for deleting continuous and negative values; and discrete choice models such as logit and Probit for incorporating traveler behavior and preventing continuous and negative values. Furthermore one of the most important characteristics of travel demand models is transferability. Spatial transferability of travel forecasting models refers to the appropriateness of using models developed with data and information from one geographical region for travel forecasting purposes in another region. This topic is of considerable interest from both theoretical and practical standpoints. Theoretically, assessment of a model's performance in different contexts provides insights into its ability to provide credible forecasts under different scenarios. From a practical standpoint, ability to transfer models from one region to another can help in significant cost and time savings for regions that cannot afford to invest in extensive data-collection procedures. Without transferability in time and space, the use of the model will be compromised due to either over or under-estimating demand, which will lead to inaccurate assessment of the associated transportation needs and poor allocation for infrastructure investment.

### Methodology

Although a model is not "statistically" transferable, it could closely approximate behavior in the application context for all practical purposes. Measures of predictability have been used to make such practical assessments. These metrics measure the predictive accuracy of transferred models in the application context and can be classified into two categories: (1) aggregate prediction based transferability metrics (such as relative error measure and root-mean-square error), and (2) log-likelihood based transferability metrics (such as transfer rho-square and transfer index). Aggregate-level prediction-based transferability metrics such as the Root Mean Square Error (RMSE) provide a measure of error in the aggregate predictions (e.g. predicted mode shares) of the transferred model. The analyst needs to make assumptions on the level of acceptable error in predictive accuracy to determine whether a model is transferable. A cautionary note is in order here regarding the use of aggregate-level prediction metrics for transferability assessments. These metrics measure how well a transferred model reproduces aggregate-level behavior (e.g. mode shares) in the application context, but not necessarily the ability to adequately forecast changes in travel demand under different demographic, land-use and transportation system change scenarios.

Among the log-likelihood based transferability metrics, transfer rho-square describes how well a transferred model fits the data observed in the application context, relative to a reference model (e.g., a constants only model). The transfer index (TI) is a derived measure from transfer rho-square in that it is the ratio of a transferred model's rho-square to the locally estimated model's rho square. Thus, TI measures the goodness of fit of a transferred model *relative* to a locally estimated model (the closer the TI value is to 1, the more transferable is the model considered to be)

### Discussion and Results

Model estimation relied on the statistical software package Stata. The selection of the final models considered coefficient reasonableness, check of logical relationships, chi-squared statistics, pseudo  $R^2$ , and t-statistics. The result show that Qazvin and Eslamshahr final models include three explanatory variables: number of workers, number of cars and interaction these

two variables. Models coefficients have the correct sign and are significant at the 95% level and model statistics are with acceptable ranges.

### **Conclusions**

Transferred Poisson model to Qazvin and Eslamshahr have Transfer Rho-Square, respectively, 0.08 and 0.06, Transfer Index, respectively, 0.83 and 0.77, Root-Mean-Square-Error, respectively, 0.69 and 0.37 and Relative Aggregate Transfer Error, respectively, 1.53 and 0.88 and Transferred multinomial logit model to Qazvin and Eslamshahr have Transfer Rho-Square, respectively, 0.21 and 0.08, Transfer Index, respectively, 0.72 and 0.48, Root-Mean-Square-Error, respectively, 0.24 and 0.35 and big values for Relative Aggregate Transfer Error, respectively.

This study shows that Transferability test statistic reject the null hypothesis of the two cities parameters equality for two models. Result show that from transfer Rho-Square and Root-Mean-Square-Error multinomial Logit model has better performance in transferability and from transfer index and relative aggregate transfer error Poisson model has better performance in transferability between Qazvin and Eslamshahr. compare plot of observed and predicted aggregate trip shares shows that multinomial logit model models have better performance in terms of comparison of predicted share of every trip rate level with observed share.

**Keywords:** Trip Production, Spatial Transferability, Poisson Model, Multinomial Logit Model.



## **Resilience Analysis of Urban Water Infrastructures in a Potential Earthquake (Case Study: Region 2 of Tehran Municipality)**

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### **Extended Abstract**

In recent years, several disastrous earthquakes have occurred around the world which highlights the risks of infrastructure damages in urban areas. Since the improper planning urban communities are vulnerable to extreme events such as earthquakes which could reduce their ability to withstand and recover their function from emergencies and natural disasters. Recent damages caused by natural disasters have attracted researchers' attention to urban resilience concept especially on the objective of achieving disaster-resilient infrastructures (Chang, McDaniels, Fox, Dhariwal, & Longstaff, 2014).

This paper is to promote a practical approach to evaluate the water infrastructure system vulnerability toward the seismic resilient city. The methodological approach of this paper is practical, and focuses on water infrastructure system in district 2 of Tehran city, Iran, in the context of the probable earthquake. In this study, the most probable earthquake scenarios were chosen to evaluate the social and built environment impacts of the potential earthquake on water pipes. Furthermore, geographic information system (GIS) technology was used to analyze the existing water distribution system and visualizing its vulnerability in high-risk areas of Tehran. In this study, seismic features like PGA, PGV, and Mw were estimated by the probabilistic analysis method. In this study, the probability of the most potential earthquake and the probability of water system pipeline failure for each 200 to 200-meter parcel of the studied area were calculated. Furthermore, the system failure rate was calculated and analyzed to understand the community vulnerability. Classification of the study area was completed based on system vulnerability.

Results indicate that water infrastructure has significantly influenced the community resilience. Based on system repair rate and pipe damages, resilience classification was completed. Finally, we offer suggestions to increase urban resilience based on urban vulnerability.

### **Methodology**

This article's methodological approach is practical and concentrates on potential disruptions to

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water infrastructure services in the case study area. In this research, quantitative methods and analytical techniques were used to analyze and examine the impact of proposed earthquake scenario on water infrastructure by utilizing a probabilistic risk analysis and HAZUS-MH and SR methods. For this research, a solid case study selection was necessary. The process of selecting case study involved a number of steps, which seismic risk, fault features, and main city water pipe locations played a key role in these steps. We focused on district two of Tehran municipality where active faults and main water pipes cross the area. First, we acquired infrastructures, seismic and urban geographic data for the entire region and prepared a GIS database for our study area. Once maps of seismic classification, water infrastructure, and fault locations were generated, these layers were overlaid in GIS software. Second, we used probabilistic analysis method to specify the seismic features of the study area. Moreover, water pipes were divided into separate segments to evaluate each parts vulnerability. In this study, the model simulates repair rate per length as the key indicator of system resilience.

### **Results and Discussion**

In this article, we developed a map of peak ground velocity for the potential earthquake scenario in the region which is shown in map 4. Probability analysis indicates that peak ground velocity is much higher in northern parts of the study area. We calculated pipeline damage based on repair rate per length and PGV which is illustrated in map 4. To estimate repair rate and damage, equations number 1 to number 3 were used. Results indicate that total damage points in water pipelines will be 219 in the case of a possible earthquake. We assumed 80% of damages would be leak points while 20% of damages will be broken points in water distribution system for wave-passage.

Our assumptions were based on Fema (1999), Hazus methodology. Results indicate 175 leak points and 43 full damage points in the system which means severe potable water service disruptions can be expected in most urban water infrastructure parts in the immediate aftermath. Map 5 shows the damage rate in the case study area. Based on damage probability analysis and equation number 3 we classified the case study to illustrate the urban and system resilience in case of the probable earthquake which is shown in map 6.

Probability and damage results for the case study area show the likely severity of water disruptions system in the case study especially northern parts of the region. Repair rate in the southern area was less than the northern and western parts of the region.

### **Conclusion**

This study has provided a practical method based on international standards for evaluating water infrastructure resilience, emphasizing the functional features of the system which could be impacted by the earthquake.

For the potential proposed earthquake scenario, due to the break and leak rates, severe water service disruptions could be expected in some parts of water infrastructure sectors in the immediate aftermath.

Emergency restoration efforts are essential to increase urban resilience which should be done based on schedule 2. This research gives recommendations for consideration of construction of the emergency water supply bases, use of underground water and water pipe retrofitting plans.

Seismic-resilient suggestions based on this study includes not only changing the water supply system from brittle to ductile type but also providing emergency water to the citizens.

Based on the median rates of repairs per km of pipeline, system vulnerability, and population density in urban areas, emergency water supply locations were suggested to increase urban disaster resilience, so that anybody in the case study area can access water within a standard distance of one to two kilometer after the earthquake. Map7 shows the proposed locations of emergency water supply bases in case study area.

Based on this article's results, we suggest prioritizing northern part of the study area for urban resilience improvement plans. Map of existing reservoir, emergency water bases, and wells should be available for all community members to enhance urban and community resilience.

Overall, this study has demonstrated a practical approach that could be applied by urban planners and disaster managers to reduce risks and vulnerability of water infrastructures toward increasing urban and community resilience.

**Keywords:** Resilience, Vulnerability, Water Infrastructure, District 2 of Tehran, Earthquake.

## **Effects of Parquetry Construction on Pedestrian Experiences (Case Study: Valiasr Street, Tehran)**

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### **Extended Abstract**

#### **Introduction**

Walking is one of the oldest forms of movement in urban areas. By walking, human beings can make relations with their surrounding environment and have social interactions. The walkability can result in social vivacity and merriment. The walkability of the cities and pedestrian satisfaction enable the citizens to improve their lifestyle and make better social interactions. This kind of urban structure is useful for municipality to gain more participation of the residents in decision making about the special requirements. The purpose of this present research is to investigate the influences of new ways of parquetry of the sidewalks on walkability of the citizens in Valiasr Street, Tehran, Iran.

#### **Methodology**

This is a descriptive and analytical research. In this research, in field surveys we have used a questionnaire tool to have citizen's views. The statistical population of the study is all the citizens having trips in the Valiasr Street of Tehran. Based on standard values defined in recent studies, sample size is determined 225 people. We have used SPSS to analyze the data.

#### **Results and discussion**

The results show that there is a significant relationship between development of public spaces and enhancement of the pedestrian satisfaction. The places for sitting in the streets have also a positive relationship with improvement of pedestrian satisfaction. The results of the improvement of pedestrian experiences are including development of public spaces, designing places for sitting, coexistence enhancement in streets, and encouragement of participatory processes.

#### **Conclusion**

The results of this study have indicated that there are relationships between the parquetry goals and pedestrian satisfaction and walkability in the cities. The results have also demonstrated that

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there are significant positive relationship between walkability and pedestrian good experiences in one hand and development of public spaces, designing places for sitting, coexistence enhancement in streets, and encouragement of participatory processes on the other hand.

**Keywords:** walkability, parquetry, Tehran City, Valiasr street.

## **An Analysis of the Geopolitical Factors in the Formation of Military-Arabian Coalescence in Southwest Asia and its Effects on Security of Islamic Republic of Iran**

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### **Extended Abstract**

#### **Introduction**

Nowadays, Southwest Asia is inflamed by terrorist attacks and rioting groups mainly in Iraq and Syria, invasion of Saudi Arabia to Yemen and its interferences in Bahrain, political agitations in northern Iraq, increased tensions between Iran and Saudi Arabia, and the presence of Iranian military and counselors in Iraq and Syria. In such conditions, the aims of some Arabian states including the Saudi Arabia are to prevent geopolitical influence of Iran in the region and augment their military and economic power. Following the aims, the countries attempt to utilize these circumstances for their interests and against Iran through forming military-Arabian coalescence. In May, 2017, with an increase in the interest of the Arabian states around the Persian Gulf to form the new military-Arabian coalescence, as it was called Arabian NATO by some journalists, the USA seriously supported the coalescence. This was cleared by the travel of American president, Donald Trump, to Riyadh.

Constitution of such coherent coalescence in the past was not successful due to geographical dispersion of the Islamic states, differences in the views of the states about the political and international approach of Iran, and difference in identity of the nations. Although these attempts in the past were failed, this time the Arabian states particularly Saudi Arabia supported by the trans-regional states like USA are serious to form the coalescence.

The purpose of this research is to address the event by exploring the geopolitical reasons of the interest, neo-realism approach, and using cross-effects analysis technique and also to understand the impacts of the event on national security of Iran.

#### **Methodology**

This is an applied research by an integrated-analytical method. In the research, the data have been gathered by library sources and internet. We have used cross-effects analysis technique as a method in future research strategies. We have also applied Delphi method using questionnaires to obtain the components affecting the event.

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**Results and discussion**

In this study, we have investigated the reasons and favorable conditions for constitution of the Arabic military coalescence in southwest Asia by a neo-realistic approach in geopolitics. The possible impacts of the coalescence on the national security of Iran have also been accessed. In other sciences such as international relations the neo-realistic approach is used to understand the interests of the countries to form such coalescences, fear from one or more rival countries, and the issues about balances of powers, balances of threats, and balances of interests. Among the issues, the theory of hegemony is outlined. This mentions the influence of the dominant power on united and convergent international structures.

After we received the views of experts about potential influences of the factors affecting the formation of the coalescence in southwest Asia, the views have been analyzed. The results of the model have revealed the factors encouraging the Arabian states to form the anti-Iran coalescence. These factors are including the influence of trans-regional powers, particularly United States, geographical characteristics of the Persian Gulf region, environmental issues and limitations, huge volume of oil and gas resources of the region, higher population of Iran relative to the Arabian states.

**Conclusion**

There are some factors that can threaten the security of Iran. Trans-regional powers, particularly the USA, play important role in configuration of the coalescence. The economic rivalry and occupation of economic markets of the southwest Asia and the resources of oil and gas of Persian Gulf is very important for the Arabian countries. On the other hand, the main goal of the Arabian states in formation of the coalescence is to decrease the security and geopolitical influence of Iran in the region. Therefore, this can be concluded that the coalescence can affect the national security of Iran in military and economic areas in the present and the future. As security means lack of threat in the existing values, these factors and goals of the states are direct threats for the issues.

The increased military power of Iran, increased internal security and the higher geopolitical influence of Iran after Islamic Revolution are concerns for rivals of Iran in the geopolitical region of Persian Gulf. Thus, the states decided to take common policies in order to prevent the increase in the power of Iran in the region and guarantee the survival of their government. The changes can be explained by the theory of hegemony as the Arabian states obey the dominant powers including USA.

Unlike the views of the researchers and authorities of Iran, the results of this research have indicated that the variables such as religion, language, and invasion to Iran embassy in Saudi Arabia were nor effective in the interests of the Arabian states. The states are not interested in decrease in their economic relations with Iran.

It can be suggested that before the military-Arabian coalescence is formed, in such critical conditions, Iran government should make great attempts to mitigate the Iranophobia in this region and to make the countries aware of the extensive security damage to entire the region and the maximum interests the coalescence can bring for the USA. Based on the findings of this research, economic and military security of Iran is threatened by formation of the coalition. Thus, it is necessary for the diplomacy of Iran to make further efforts to mitigate the Iran-phobia in the region. In other words, as the formation of the Arabian military coalition can endanger the security and economic conditions of Iran, the government of Iran has to prevent the formation of the coalition and weaken its development. So, Iranian government has to make the world aware

of its peaceful purposes and reduce the Iranophobia among the countries of the region. Additionally, Iran has to make the neighboring states aware of the great damages this coalition may have for all the states of the region and the highest benefits of that for the Americans.

**Keywords:** military coalition, Arabian states, America, Persian Gulf, security.



## **A Study of the Regional Consequences of the Referendum in Iraqi Kurdistan**

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### **Extended Abstract**

Iraqi Kurdistan is the name of a Kurdish region located in northern Iraq that has been struggling to be separated from Iraq since the country's independence in 1932. After years of struggle, Kurds managed to achieve a minimum level of autonomy in 1991 in the light of no-fly zone and with the support from the foreign powers. After the fall of Saddam in 2004, Kurds succeeded to turn Kurdistan into a federal region. However, with the rise of ISIS in 2014, they were challenged by the central government of Iraq. Due to their disagreement with the central government of Iraq over the budgets and territorial conflicts, Kurds held a referendum on September 25, 2017 which was accompanied by the Kurds' vote for independence from Iraq. A descriptive-analytical research design was used in this study and the data were collected through written sources and the internet. The main question addressed in this study is: what are the possible outcomes of holding the referendum for Iraqi Kurdistan at the regional scale? In response, it should be stated that the referendum had negative political and economic consequences for them.

Results indicate that the imposed geopolitical isolation, the Turkish-Iranian trade embargo on Kurdistan and Israel's supports of the Kurdish decentralization were among the regional implications of the referendum in Iraqi Kurdistan. Therefore, given the enclosed geographical position of Iraqi Kurdistan, any action taken by the Kurds in this regard, regardless of its outcomes, is doomed to failure.

### **Introduction**

Iraqi Kurdistan is the name of a federal regional in northern Iraq, which includes four provinces of Erbil, Dohuk, Sulaimaniyah, and Halabja. Most of the inhabitants of the area are Kurdish people. Iraqi Kurdistan was able to achieve a minimum level of autonomy in the light of the no-fly zone created after the Iraqi invasion against Kuwait in 1990 and the subsequently the deport of the Iraqi forces from Kuwait by the United States and its Western allies in 1991,. But with the US invasion against Iraq in 2003 and the positive role that the Kurds played in drafting the constitution of Iraq, Iraqi Kurdistan became a federal region. However, with the passage of several years since the establishment of the federal system in Iraqi Kurdistan and despite the positive effect that the federal system had on its economic prosperity, the Kurdish leaders decided to hold a referendum because of the conflict between the federal government of

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Kurdistan and the Iraqi government over the budget and disputed areas, The purpose of this study is to examine the implications of this referendum; Because this referendum, beyond geopolitical isolation, had political and economic consequences for Iraqi Kurdistan; a matter that greatly impacted the morale of the Kurdish people and invoked their reaction to bad economic and political conditions.

### **Methodology**

The most important and strongest method in experimental sciences including geography is inference (deduction). The deductive reasoning or inference discovers scientific principles through the process of reasoning which is a logical method. In fact, it is logical reasoning that supports and enhances the ideas and conceptions gained through the experimental techniques and create synthesis by developing a thesis and an antithesis. In this method, the ways of establishing a rule as a basis for the validity of that rule are explored.

### **Results and Discussion**

Iraqi Kurdistan with an area of 60643 square kilometers and a population of 7.6 million is a region rich in resources. The Kurds managed to achieve economic prosperity after they created a federal system in Kurdistan and established security, so that they were called the "Dubai II". However, with the rise of ISIS (2014), they encountered many problems. What exacerbated these problems was the cut off Kurdistan's budget by Baghdad. In 2017, Iraqi Kurdistan went through a critical situation in a way that, as a result of falling oil prices, the Kurdish Trust Fund was almost emptied, and poverty hit Kurdistan and the region was on the brink of stagnation. The Kurds' demands for budget from Baghdad and Baghdad's refusal to repay Kurdish funds made the Kurds follow a different approach. In mid-2017, while ISIS was spending its final days in Iraq, and somewhat in Syria, Kurdish leaders who were worried about the post-ISIS era held a referendum. The referendum, which was accompanied by regional and global opposition, had some negative political and economic consequences for the Kurds. Imposed geopolitical isolation, a trade embargo on the Kurdistan region by neighboring countries, and Israel's support for the Kurdish divergence were some of negative implications of the referendum.

### **Conclusion**

Iraqi Kurds managed to achieve a federal system in 2004. In this system, the economic boom swept through the region due to prevailing security in Iraqi Kurdistan. But this situation did not last long due to the cutoff of the Kurdistan's budget, the emergence of ISIS, and the controversy between Erbil and Baghdad. Iraq Kurds who were exposed to some challenges due to their conflicts over Article 140 and cutoff their budget by the Iraqi government held a referendum on September 25, 2017 despite regional and global opposition. The referendum left the Kurds at a disadvantage because the neighboring countries imposed sanctions on Kurdistan. Therefore, Kurdish leaders should refrain from any hasty action by understanding the geopolitical position of Kurdistan, because Kurdistan has no access to the Free Sea. In the second place, Iraqi Kurdistan has geopolitical affiliations with neighboring countries, and the movement of this region towards independence has stimulated Kurds in other countries. Therefore, it is natural for neighboring countries to oppose the independence of Iraqi Kurdistan. Now, given the conflicts between Erbil and Baghdad, the only solution to the current crisis is the diplomatic negotiations within the framework of the constitution of the federal Iraq state.

**Keywords:** Iraqi Kurdistan, Iraq, Referendum, Geopolitical Isolation, Sanction.

## **The Impact of Economic Exchanges on the Development of Border Cities (Case Study: Piranshahr City)**

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### **Extended Abstract**

#### **Introduction**

Urban growth and development in all countries, to a certain extent, is a function of geographical location. Central cities usually exhibit faster growth when compared to peripheral cities. A border city is a spatial residential phenomenon located within a certain distance of the border. The growth of such a city follows factors such as economic, cultural, and political exchange with the interior and exterior space of the country. These factors can guide the city towards the development of certain actions, and thus play an effective role in its spatial development. Studies of the development of border cities, same as all other cities in Iran, show that their spatial growth and development can be traced back to economic changes such as cross-border exchange and higher emigration to cities. The development of a border economy in recent years, whether legal (the border arcade of Tamarchin) or illegal (smuggling), has paved the way for higher economic growth in Piranshahr. It is clear that the development of economic activities has created more employment in the city, therefore attracting a higher population (immigration friendliness) and leading to urban growth. The population in 2011 (about 70 thousand) compared to the population in 1966 (about 4848) clearly indicates this.

#### **Methodology**

The research methodology used in this study is descriptive-analytical. The required data was collected through library research, official organizations, statistics, and field studies. In order to prepare data for analysis, the raw data was imported to Excel 2013, where all required tables and figures were extracted. The Bujogarnia Diagram was used investigate the economic role of the city, which was measured by analyzing the number of active population in all three major occupational groups: services, agriculture, and industry. In addition, the rate of growth was calculated for the phenomenon of land-use change, the map of which was created in GIS.

#### **Discussion**

Due to the development of cross-border trade and higher population growth, the city of

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Piranshahr has undergone numerous changes and transformations, as is evident from the widespread land-use change, which is a major indicator of physical growth and change in cities. From the obtained information, it can be inferred that economic exchange has had a serious impact on the growth and decline of certain land uses. Commercial use of land has grown by 10.22 percent. Urban green belts have enjoyed a significant growth rate of 14.94 percent in uptown in order to accommodate for the passengers, decorate the city, and create a healthy space for free time activities. Also, residential and transit network use have increased by 6.95 and 5.51 percent, respectively. On the other hand, due to higher security, population persistence, and higher convergence of the people with the center, which have resulted from economic growth, military land use has faced a negative growth rate of -4.95 percent. In sum, the land area of Piranshahr city has expanded from 446.4 hectares in 1995 to 844.45 hectares in 2011, i.e. it has nearly doubled. Therefore, the process of changing Piranshahr from a military-security region to a service-commerce region can be an important factor in the steady spatial growth of the city. The results of the Bujogarnia Diagram confirm this claim. According to this diagram, the city has tended towards a multi-role paradigm (service-commerce). Initially, according to the 1996 consensus, the city had a service-dominant role; this can be ascribed to the high population of military sector, which was considered a part of the service sector. However, in the following consensuses, the city shifted towards a service-commerce city. This manifests itself in the decline in the number of military employees and the increase in the workers of other service-related areas and subordinate jobs, which was a result of more commercial/cross-border activities. Another important conclusion that can be drawn from this study is that economic exchange has increased employment and attracted commercial tourists to the city. According to statistics obtained from the Cultural Heritage and Tourism Organization of Piranshahr, during the first 20 days of the year (i.e. Nowruz vacation), 2,509,667 people have visited the city from 2010 to 2014 in order to purchase inexpensive imported goods, i.e. 501,933 people on average have visited the city during the first 20 days of each year. In sum, this study reveals that the city of Piranshahr has experienced significant physical-spatial and economic development, highly as a result of granting formal status to the border arcades of Tamarchin and the increased amount of cross-border exchange through informal means; this calls for the immediate attention of the authorities to provide the required infrastructure and allow for more serious growth and dynamism of the city.

### **Conclusion**

Results of the analyses performed on the development of Piranshahr city confirm that economic exchange with Iraqi Kurdistan has had a positive impact on the development of the city. The results indicate that the economic growth policy of the Iranian government in recent years, followed by the expansion of cross-border trade and commerce, has had a significant positive impact on the physical development of Piranshahr. Cross-border trade has local and even regional-national effects on the economy; and the development of economic centers (border arcades) as a result of economic exchange, has led to physical development and change in the city.

**Keywords:** Economic Exchange, Development of Border Cities, Urban Role, Piranshahr City.