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***Spatial and Functional Analysis of Tehran APS with
Emphasis on City Connection to World Cities Network
A Case study of Asia Insurance Broker Firms***

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Extended Abstract

Introduction

Much of the cities restructuring are influenced by places, firms, and networked connectivity between them in an economic globalization era. This article begins with explanation of Advanced Producer Services (APS) and Insurance service's importance in cities Eco-Spatial restructuring with emphasizing on spatial and functional behavior of insurance firms in a Tehran metropolis. The main purpose of this article is to examine the determinants of location decision making by insurance firms as well as their transnational function in Tehran's connectivity in the World Cities Network. Analyses of data collected from 45 firms of almost 150, by means of questionnaires, interviews, and published documents reveal three main findings: First, Tehran is a national command and control center of insurance as APS sector in Iran. Second, a new sector of corporate based economy has formed in conjunction with Tehran CBD in the last two decades and firms moving to northern areas of Tehran. Finally, despite the high potential of Tehran for participation in the global cities network, for the time being, Tehran has a very weak status in connection to the World Cities Network, Tehran is not yet a world city. Growth of the recent capitalism, information revolution, and globalization offered new functions to cities. In this process cities get new functions in service sector. One of them is "Advanced Producer Services" (APS) including accountancy and auditing services. Those services support many

economic sectors in cities to enhance their efficiency. In this article we have studied corporate geography of Advanced Producer Services Firms (APSFs) with emphasis on ASIA Insurance Broker Firms.

Methodology

In this paper, we have used documents and survey studies including questionnaire and interviews to obtain conclusions. We use some analytical instruments and software such as ArcGIS10, SPSS19 and also statistical analysis methods to test and examine the hypothesis. We collected data from 45 firms from nearly 150 as samples to the survey. The research has functional and spatial variables. Thus, with the theoretical framework, APS sector and its location define the determinants in Tehran Metropolis. The variables are:

- Formation of companies
- Buildings type
- Access to the CBD
- Access to transport
- Reasons for Moving
- Firms Location
- Access to customers
- Size of firms
- Year of establishment
- Labor
- Use of Information Technology
- Face-to-face encounters
- Connection to the cities of the world
- Reasons for international links

Results and Discussion

In this paper, we have studied corporate geography of APS in Tehran metropolis by using variables such as accessibility to transportation network, CBD, land cost, ICT, firm size, hinterland, global city network connectivity, and other variables. We have used some documents for studying location determinants and characteristics of the Insurance Broker Firms (IBFs) in the city. The research has tried to show the relation between APS transportation network, CBD, land cost, and other determinants in the city.

The study also examine APS more density regions in municipality concentrated APS and movements of APS to qualified environments. The most important findings of this present research are:

1. Over ninety percent of insurance companies are formed in Tehran in the past two decades and they have grown.
2. All major insurance companies are concentrated in Tehran as a command center of headquarters in insurance sector of Iran

3. In addition to the Central Business District (CBD), a new district is formed by the most advanced service companies in the city.
4. Tehran Metropolis, have not had an advanced urban center to absorb foreign companies. Most service companies have been spread in the highest quality residential areas.
5. In the urban geography of Tehran, foreign and international companies operating in the financial and insurance sector don't have a tangible presence.

Conclusion

In this research, we have found that initially a new corporate services-based sector has been shaped in the recent years and extended to the north of Tehran and suburbs with a high environmental quality. Secondly, AAFs in Tehran don't have international functions and they have a weak relation to the global cities' networks. Finally, this can be concluded that, although Tehran has high capacity in international relations and participating in the global cities network, it is not yet a world city; its accountancy and auditing sector is a good example of this situation. Tehran urban management must provide strategies to empowerment and enhancement in corporate services-based economy to work with transnational functions. Tehran needs to have APS sector to connect to the Global City Network. To enter into this vision, the urban management is required to scrutinize and apply for appropriate programs as soon as possible. Given that the impact of the sanctions on the economy of city has been doubled, but corrective and preventive actions in this field has not yet been done.

In the recent years, Tehran has tried to improve the city environment for international events. Among them we can mention the improved public transport and urban green spaces. However, the efforts have not been conducted in APS. For Tehran it is necessary to improve its international and inter-city relations. For this, spatial planning and reforms in political, social, and cultural sectors are indispensable. Advanced services such as insurance sector are very fragile and delicate in competition with the world. It requires careful forethought and planning.

Keywords: *Advanced Producer Services (APS), Insurance Services Broker Firms, Locational Behavior, Tehran Metropolitan, Trans-national Function, World Cities Network.*

*Examination and Evaluation of Physical Expansion Pattern,
Yazd City*

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Extended Abstract

Introduction

Urban development in its evolutionary procedure from the beginning has had a relatively balanced stream. But cultural, social and economic transformations of 19th and 20th centuries affected by modernism have caused rapid expansion of the cities and emergence of big cities. These changes have also modified physical-spatial organization and structure of the cities. This urban growth would have devious and infinite problems. One of the vital objects in the 21st century in relation to the city constancy is urban growth form, i.e., compactness or dispersion.

Yazd city is an example that has faced with rapid and dispersed growth. Despite of unity and compactness in the emerging phase, its sprout and organic growth is now suffering from an ill-fitting structure. Hence, it is necessary to analyze the spatial form of the city and population distribution and activity, also its gathering and dispersion. According to the theoretical framework for analyzing the transformations of the physical dispersion pattern and the problem of the spatial form transformations in Yazd city during the recent years, two hypothesizes is suggested: 1) It has been assumed that Yazd city have had sprawl growth during 1966-2006. 2) It has been assumed that the spatial distribution of the population and their activity is not balanced in Yazd city. 3) It has also been assumed that the population and urban activity in Yazd City follows a dispersed pattern with no tendency in concentration.

Methodology

This is an applied study on the basis of purpose and also a descriptive –analytical on the basis of nature and method as a kind of case-study. The required data for this study including the employment and population statistics of Yazd City based on administrative zonation of 2006. That was gathered by referring to the city hall of Yazd in the Statistics Center of Iran and the management organization of the Yazd Province.

For examining the first hypothesis, Holdren Model has been employed. For examining the second hypothesis and evaluating the amount of balanced distribution of the population and employment in the city, Gini and Entropy indexes have also been used. In fact, the population and employment distribution could be balanced or unbalanced in different parts of the city.

Dispersion and concentration of the population and activity have also been examined by the indexes of Moran, Geary and General G. Gathering and dispersion of the population and employment could have clustered, random or dispersed (checkered) patterns and concentration could be in the form of hot spot or cold spot.

Results and Discussion

The results of examining the first hypothesis show that despite compact and regular development of Yazd City during 1966-1976, this city have had a sprawl development during 1966-1996. In general, the results showed that on the basis of Entropy index, there is some inequality in employment and population distribution in 9 zones of Yazd City. The Shannon entropy index for the area of the 9 zones of Yazd city in 2006 showed that it has a dispersed physical development. The results of analyzing the spatial distribution of population and employment using Gini method showed also that there are some inequalities and disagreements in distribution of these two parameters. In general, according to the calculations there are a few inequalities in the distribution of population and activity in Yazd city. Therefore, it can be said that the spatial distribution of the population and activity in Yazd city is relatively balanced. Thus, the first hypothesis is rejected.

It seems noteworthy that if the urban parts had a cold spot of population and activity, then the existence of balance in population and employment distribution shows the sprawl. On the other hand, if the compression of the population and employment is high in the zones, the balanced distributions of population and employment shows a compact form for the city.

By regarding the fact that the spatial distribution of population and activity in Yazd city is a little unbalanced and Yazd city has a cold spot of population and employment, we can conclude that Yazd City has a spatial sprawl form.

The calculated Moran indices of employment and population of the both methods of measuring shows a random pattern which is more inclined to dispersion (checkered) than clustered pattern. The adjusted Geary index for population and employment of Yazd city was also calculated by using zero and one method. Both of them are cleared to random patterns and are inclined to the dispersion (checkered pattern). That has accordance with the results of Moran index. By regarding the calculations, Yazd city from the amount of population and activity gathering and dispersion point of view follows the pattern of random to disperse. The city from

the concentration point of view has a cold spot of population and employment. The zones of Yazd city with low population and employment are concentrated near each others. Therefore, the second hypothesis is accepted.

Conclusion

Using these methods and the results we can conclude that the physical pattern of Yazd City is of sprawl pattern and we cannot see a compact and concentrated pattern. By regarding the necessity of directing the city towards more constancy, a necessity of change is felt to apply solutions and some suggestions for more compactness. Therefore, some necessary strategies for gaining a wise growth should be applied to monitor the physical development of Yazd City and promote a constant development and malting and also construct a healthy, well-proportioned, balanced and united city. These strategies are strengthening and producing urban spaces, government coordination in purchasing abandoned lands and properties, avoiding dispersed and sprawl constructions, organizing of land uses.

Keywords: Compact City, Physical Expansion, Sprawl Pattern, Yazd City.

***Ecotourism Entrepreneurship Development Pattern in Rural Areas
(Case Study: River Valley Tourism in Tehran Providence)***

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Extended Abstract

Introduction

Nowadays, diversification of rural economy through entrepreneurship development is considered by researchers and planners. Diversification of rural economy through entrepreneurship development is regarded as one of the paths of rural economic development. Therefore, it is one of new economic opportunities that is strongly growing because of world needs, as the rural tourism or specially ecotourism. Thus, rural tourism and especially ecotourism as one of the new opportunity of the economy is growing and expanding because of global, regional, national and local needs. These phenomena are especially important in the margin of metropolitans such as Tehran because of the need of families and citizens for enjoying natural environments with pretty view and far from pollutions, particularly in the form of tourism valley. The concept of ecotourism as an ideal term of Environmental Protection and Sustainable Development is based on the global currents, eliminating many ecosystems. The role of human interference in the nature is more than that of environmental factors. Because of this, there is still a vulnerable stability condition without resistance. Other scholars including Carter and Caudal are in doubt about tourism and environmental sustainability; they believe that sustainable tourism, despite its obligations to environmental conditions, would not be

achievable. However, some people like Butler believe that in spite of numerous investigations in this area, we must await the results and the related successful outcomes in the future. However, using the appropriate setting for the leisure environment involves population appeals. Ecotourism is able to use the increased powers of environmental cooperation, its economic impact, environmental protection, sustainable development and mobility and dynamism in the local and regional economy. Climatic and natural attractions along with different geographical heritage of human civilization and ethnic and racial diversity of the expensive-for-people stock has brought up the sustainable exploitation. They require different conditions based on stability in the tourism sector. Today, entrepreneurship development can be applied for diversification of rural economy as one of the paths of rural economic development.. These phenomena are important, especially in marginal region of great urban areas like Tehran due to the public need for enjoying nature and avoiding pollution.

Methodology

Accordingly, the main question in this article is that” the Ecotourism entrepreneurship development based on what pattern is possible?” Therefore, the main goal of this study is to present the Ecotourism Entrepreneurship Development pattern in Rural Regions with valleys tourism potential. In this study 17 rural areas in 7 rivers - valley path have been selected as a sample case by aquantitative-survey methodology. This is investigated in 3 dimensions: environmental condition, policies and law procedure and entrepreneurship. The three dimensions can influence the development of ecotourism entrepreneurship.. Moreover, quantitative, survey and qualitative methods have been used to evaluate contribution of the three dimensions in four groups of the study, i.e., elites, business owners as a entrepreneurs, rural communities in family level and tourists.. Thus, to determine the influnce of these tree factors on ecotourism entrepreneurship development in case study rural area, relationship and contribution of the influential factors has been evaluatedto determine the optimal pattern.

Results and Discussion

The results of the analysis indicate that from three visions of the study groups (elites, business owners as entrepreneurs, rural communities in family level and tourists), all of the three dimension factors with the confidence level of 0.05 are significant. About Contribution of each factor in explaining the rate of entrepreneurship development, the result of Tukey analysis show that in vision ofthe elites, policies and legal procedures have the highest mean rate (4.25). But in visions of other study groups entrepreneurial characteristics have the highest rate (with 3.4 and 3.7). Descriptive statistics also confirm this result.. Therefore, entrepreneurial characteristics with 0.459 coefficient have the highest effect and policies and legal procedures with 0.485 and Environmental conditions with 0.385 coefficients are in other ranking. To determine the differences of rural in protected area in ecotourism entrepreneurship, T test analysis indicatesignificant level coefficient is not important. Also, Codification of strategies for ecotourism entrepreneurship development showed that most of the existing trend is defensive. But to achieve the desired position in the development of ecotourism entrepreneurship it is

required to adopt an aggressive strategy. Finally, the presented ecotourism entrepreneurship development pattern by 25 indices in three dimensions explains 35.2 percent of ecotourism entrepreneurship development goals in the region. The results also show that based on the selected index and Pierson Regression sample in SPSS application, there are significant relation among the 3 affective dimensions in entrepreneurship development. Based on selected indices (36 cases) through Pearson analysis, relationship among the three factors are significant.

Conclusion

Descriptive statistics can also confirm these results. Based on the results of multiple liner regression and path analysis, the amount of indirect effect of the variables and the entire effect (direct and indirect) have been calculated. Based on multicriteria regression and Path Analysis technique, entrepreneurship has the most effective dimension, policies and law procedure is the second effective dimension and finally environmental condition with lay in the third rank. Ultimately, Ecotourism Entrepreneurship Development pattern by considering the indexes and the 3 mentioned dimensions can explain 35.2 percent of entrepreneurship development of ecotourism for the region.

Keywords: Ecotourism, Entrepreneurship, Pattern, Tourism, Villages of Tehran.

***Optimization of Urban Transportation and Study on Causes of Accidents,
Yazd City, Iran***

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Extended Abstract

Introduction

Transportation as a prerequisite and basics of sustainable development has a key role in efficiency of facilities and human life. It has also played a significant role as an effective index in growth and development. The number of accidents in Iran is increasing and this carries with them a lot of financial, psychological, and social losses. Hence, it seems to be necessary to put into effect a series of executive solutions to prevent such catastrophes. Urbanization is being as one of the dominant contemporary processes as a growing portion of the global population lives in cities. Considering this trend, urban transportation issues are of foremost importance to support the passengers and freight mobility requirements of large urban agglomerations. Transportation in urban areas is highly complicated because of the modes involved, the multitude of origins and destinations, and the amount and variety of traffic. Cities are locations with a high level of accumulation and concentration of economic activities. They are complex spatial structures that are supported by transportation systems. The larger the cities, the greater are their complexity and potential for disruptions, particularly when this complexity is not effectively managed. The most important transport problems are often related to urban areas and take place when transport systems, for a variety of reasons, cannot satisfy the numerous requirements of urban mobility. Urban productivity is highly dependent upon the efficiency of its transport system to move labor, consumers, and products between multiple origins and

destinations. Many different terms are commonly used to describe vehicle collisions. The World Health Organization (WHO) use the term road traffic injury, while the U.S. Census Bureau uses the term motor vehicle accidents (MVA), and Transport Canada uses the term "motor vehicle traffic collision" (MVTC). Some organizations have begun to avoid the term "accident". Although auto collisions are rare in terms of the number of vehicles on the road and the distance they travel, addressing the contributing factors can reduce their likelihood. For example, proper signage can decrease driver error and thereby reduce crash frequency by a third or more. The aim of this research is to optimize the internal transportation of Yazd city with the use of multi-measurement decisive models.

Methodology

The method of this research is descriptive-analytical as a basic and developmental study. Multi-Criteria Decision Models are used for the expression of factors involved in the accidents. According to the documents, data and accident statistics have been collected for the study area. Techniques for measuring and analyzing the past few years can be give information about the root and contributing causes of the accident. Statistical techniques and multi-criteria decision making (Maximin, HurwiTZ) has been used in this research. The case study of this research is Yazd City, as the capital of Yazd Province, Iran.. At the 2006 census, the population of the city was 423,006 people, in 114,716 families. Because of the need for adaptations to its desert surroundings, Yazd is an architecturally unique city.

Results and Discussion

Growth of traffic in urban areas is linked with a growing number of accidents and fatalities, especially in developing countries. Accidents account for a significant share of recurring delays. As traffic increases, people feel less safe to use the streets.

The findings of this research show that 11000 accidents occur annually in different places of the city and 5% of them are with peddlers. The statistical analyses shows that in every kilometer of current roads of first and second degree as well as streets up to 60, 40, and 5 accidents occur annually. It is to be mentioned that the proportion of accidents per 10000 cars occur in the distance approximately about 400 kilometers. A study of network roads of Yazd shows that although the roads of these networks are suitable enough for different vehicles, some central streets such as Imam Khomeini (between Imam Sadegh and Abozar square) are resolved and considered as the critical axes. Yazd City has 22 crosses of 2, 3, and 4 times. The average time of green distance in all phases is 26 seconds. The overall average time of one cycle of road light for 2, 3, and 4 times is 55, 77, and 135 seconds, respectively. At present, there are 200 active buses in 48 bus lines and 140 taxis in 6 taxi lines. Out of these taxis, 15 are for railway station, 10 for airport, 30 for external roads, 20 for university, and 10 for bus station. A survey shows that in 2007 relative to 2006, the number of damaging accidents has been increased 5.69%, injuring accidents 7.5%, and deadly accidents 6.67%. The total accidents had been increased by 6.19%.

Conclusion

Nearly 3400 people are dying on the world's roads each day. Tens of millions of people are injured or disabled every year. Children, pedestrians, cyclists and older people are among the most vulnerable of road users. The most effective reasons for these accidents have been observance of precedence and paying no attention to the front. In all the accidents occurred, personal cars and motor vehicles have been guilty of 12%. The highest number of accidents occurred between 10-12 O'clock. The roads in which the accidents have occurred are enumerated in order as following: Ayatollah Kashani, Jomhori Islami, Bulvard, Shahid Dashti Bulvard, Imam Khomeini Street, Shahid Motahari Street, Shahid Paknejad Street, Daneshju Bulvard, Shahid Sadoughi Bulvard, Azad Shahr Bulvard, Inghelab Street, and in the squares: Shahid Bahona, Imam Hossein, Shohadi Mehrab, Abozar, Abolfazal, Homafar, and Atlasi. Therefore, there must be a unit of safety management that can organize the information and statistics to reduce accidents and promote common information in optimizing safety. Optimization of network roads, using better transportation means, supplying up to date transportation technology for supervising the drivers' faults, enhancement of signs, tables, and safety instruments of roads, optimization of the rules and regulations, promotion of public transportation system, and improved organization of the roads for vehicles are the only ways to get rid of such accidents.

Keywords: Multi-measurement Models, Optimization, Reasons for Accidents, Transportation, Yazd City.

The Strategic Geo-economic Position of Persian Gulf and the Completion of Powers in the 21st Century

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Extended Abstract

Introduction

At the beginning of the twenty-first century, great powers through new approach and great concern began a competition for economic interests in strategic regions of the world. This approach is formed through integration of geography, power, and economic factors. It also studies the the relationship between geography and economics, and the interaction of these three elements in order to help the countries gain power. In this era, the attention of the powers is shifting towards economy-political trends in the sensitive areas of the world rather than military-political attitudes. In this century, the energy, especially oil and gas as the main component of Geo-economics, plays important roles in development process, the security, and regional and international conflicts. Persian Gulf is one of the most strategic and Geo-economic areas where is the center of conflicts and Geo-economic competitions in the 21st century.

In terms of geopolitical and Geo-strategic theories, Persian Gulf is the international area where due to energy resources, provide a geo-economic space for actors (regional and trans-regional) to play role in the form of cooperation, competition and conflict.

With development in traditional discourse of ego-strategic and evolution of modern matching discourse between geoeconomic and geo-strategic territories in the last decades and

the priority of economic issues relative to military issues, oil as the essence of modern industry is the most important raw material in industrial civilization of the world in comparison with the factors of power. At this stage, energy especially oil and gas is not listed as an economic commodity, but as valuable strategic commodity has greater power.

The geo-politic area of Persian Gulf, because of having two thirds of strategic resources of oil and gas in the world, has turned into a geo-economic area and has become a place for trans-regional powers rivals since the 1900s. In the present study, the authors have tried to investigate the issues such as geo-economy, strategic importance of the region oil and gas resources, competition between regional powers such as America, European Union countries, Russia, China and Japan to meet their energy needs, export products, to invest, and to compete with each others.

Methodology

The collapse of the Soviet Union in the last decade of the twentieth century has made great changes in the knowledge and cognition of scientific areas. One of the new concepts which have been frequently used in international relations and geopolitics to analyze the strategic and international problems is geoeconomic approach. This is also used as the theoretical framework of the present study. In 1990, Edward N. Ltvak introduced and made use of geoeconomic paradigm in international relations, geopolitics, and other issues. He believes that conflicts in the 20th and 21st centuries are resulted from the past and each conflict is rooted from an economic factor. The logic of economy, which has been long ignored because of the west and the east powers and the equality of deterrent forces, plays the most important role in the analysis of human relations and the geopolitics.

The emergence of the new concept of geoeconomics within which the relations with human are developed has motivated some politicians to interpret this concept as economic war. In this way they emphasize on the role of economy in the analysis of the state policy.

Results and Discussion

It seems that the sources of energy are the most important geopolitics variables in the present political system of the world in international interactions among the countries and migration from areas with no energy or in need of energy. These resources have changed the control of production resources, transportation routes, means of production, as well as processing and transport of energy as means for world dominance. They are challenging for international competitions in an important geopolitics issue.

With changes in the traditional discourses, geostrategic and geoeconomic fields have become important disciplines. Accordingly, constant presence of powers and international actors has placed Persian Gulf at the center of global importance and international acts. That is why, this area is considered as one of the most important and sensitive areas from the strategic and geopolitics perspectives. Due to the deep international changes, wars and conflicts in the last decades, it could be claimed that Persian Gulf will become the most important center of strategic calculations and attitudes in the 21st century.

From classical geopolitics points of views, it is hearthland or special living space. That is why the experts in strategic issues argue that if the USA does not dominate Persian Gulf, its power in key areas in the other parts of the world will greatly decrease and will lose the game against the other alternatives such as European Union, Russia and China

Conclusion

Based on the findings of the present study, with the advent of the geoeconomics in the last decade of the twentieth century, energy centers have attracted the attention of consumer countries and regional and global powers more than the past. From this perspective, Persian Gulf region as the world largest energy storage will be the center of attention. Europe strategy in Persian Gulf is to cooperate with the USA, buy oil and gas, sell weapons, and have military cooperation, and agree with these countries to establish military bases. The strategy of Russia is to have a soft balancing with America, to try to find markets for its arms, have economic cooperation, and have security and nuclear cooperation with Iran, and invest in the region, particularly Iran's oil and gas resources. China has also the same strategy. This can also be concluded that due to the West and East industrial economy needs for energy resources and great decrease in energy resources of the world, the conflict and competition among the powers seems possible just in this geo-economics region.

Keywords: America, Geo-economics, Great Powers, Oil and Gas, Persian Gulf.

Political Geography and International Law of the Sea

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Extended Abstract

Introduction

The history of legal discussions of the sea goes back to 1590. It was international discussions and disputes over specifying sea borders which caused International Law of the Sea to be created. In 1590, Denmark was the first country to choose eight miles as its marine limits. In the middle of seventeenth century, Island and Norway, which were marine countries, also chose a 24 mile marine territory for themselves. After the introduction of free Sea Theory by Hugo Grotius, the Dutch lawyer, in 1609, and after that of Closed Sea Theory by Selden, the English Lawyer, these discussions were heightened and the necessity for the creation of marine borders was strongly felt. In the following years, the representation of Artillery Range Theory lessened these debates and the three mile coastal sea standard based on the artillery range standard spread among countries; but the Scandinavian and Mediterranean countries still were applying the four and eight mile standard. Even some countries like Brazil and Peru, which are located alongside the ocean, claimed for 200 miles of their coasts. These discussions and divisions among coastal countries led to measures for creation of International Law of the Sea after the World War I, which continued until 1982. For solving this chaos, after the World War I, in 1930, the international society held the Sea Law Conference in The Hague which came to no result. Then, after the World War II, two conferences were held by The United Nations in 1958 and 1960. Finally, the Third International Convention of the Law of the Sea was enacted in 1982 which has been considered as an internationally credible and recognized act, enforced on the behavior

of states and the interaction of countries with regard to marine territories. From the beginning of the drafting of International Law of the Sea, the geography factor has played an important role. Furthermore, nowadays issues such as North Pole events and conflicts among different countries about creating sea territories reveal that the location factor plays an important role in discussions among countries about creating sea territories and in their legal claims. Therefore, the aim of the current research is to study the role of geographical factors in the drafting of International Law of the Sea and the creation of conflicts among countries about borders of sea territories.

Methodology

The current study has been conducted based on the neorealist approach and the descriptive-analytic method. Data collection has been done by using library and the Internet and the material will be analyzed qualitatively.

Results and Discussion

Territoriality in the sea is in some ways different from territoriality in the land. The marine territories are actually an extension of the land territory under water which is applied according to the rules and principles governing international relations in sea zones. Territory expansion of countries in the sea happened much later than the same in the land and political geography of the sea is a relatively recent field of knowledge. The fluid characteristic of water, the existence of marine factors and elements, adherence to international law of the sea, and belief in the freedom principle in the sea have each had a role in this delay and have impacted territory formation in the sea. Thus, we can say that the political geography of the sea, as a subset of the political geography, studies the conditions and procedures of formation of sea territories and defense, economic, and environmental importance of it for states. In addition to that, it specifically focuses on the interplay of geography and the law of the sea enacted in the international conventions of Law of the Sea. When we take a look at the process of drafting of international law of the sea, we realize that from the beginning, geography has played a prominent role in the conflicts among the countries and the drafting of the laws. Hence, the role of geographical factors such as geographical location, tide and ebb, gulf, depth, delta, island, strait, and archipelago, on the drafting of International Law of the Sea has been considered. This study shows that political geography of the sea has an interdisciplinary nature, and it studies the role of geography, international law, diplomacy, technology, and power on the way sea territories are determined and are used by coastal governments.

Conclusion

From the beginning of international law of the sea, geography, international law, diplomacy, technology and power have had an important role. But geography has been the ground for all these laws. The geography of the countries which have had an active role in the drafting of International Law of the Sea, especially physical and geomorphologic characteristics of their coasts, has had a prominent role in determining the legal condition of sea territories. On the

other hand, laws which have been enacted under the pressure of great powers have also influenced geography of countries. In addition, the geography factor plays an important role in discussions among countries about creating sea territories and in their legal claims, one of the most interesting of which is claims about North Pole after 2007 onwards after the thinning of the ice layer of it. On the other hand, we should consider the issue that all the countries want to have more security and they pursue this issue in sea territories through extending and consolidating their marine territories, especially their territorial sea. The geographical characteristics of countries, alongside ambiguity about the laws enacted about the sea, have had a major role in creating different, and sometimes contradictory and double interpretations of sea laws.

Keywords: Geographical Location, Geography, International Law of the Sea, Territory, Territoriality.

***The Role of Global Warming in Geopolitical Developments of
International System***

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Extended Abstract

Introduction

In the recent decades, the world has been faced by a variety of critical, economic, social, political, and some other issues. The increase of environmental crisis and global warming is the most important environmental challenges in the world. According to Public Forum on Climate Change (IPCC), the average of surface temperature increased approximately 0.2 to 0.6° Cg during the past century. According to predictive climate models outputs, the air temperature trend will be increased from 1.4 to 3.3 ° Cg until the year 2100. Thus, in the recent decades global warming is one of the most important issues in the global system on the earth and it has attracted the attention of many governments and international powers. Now that global warming has become one of the main factors in the competition to increase or reduce the greenhouse gases in the global system. This study has attempted to analyze the concepts of global warming and its consequences. The geopolitics of global warming issues will be studied. In other words, the conceptual framework of this paper is reviewing the responses to the problem and the competition of nations and powers against the effects of global warming. This research also analyses the views of countries according to their geopolitical position against the global warming.

Methodology

The structure of this study is based on an analysis of the role of global warming effects on geopolitical developments in the global system. In order to understand the context of global warming on geopolitical developments in the international system, the change of temperature and sea level is simulated using a general circulation model outputs and emission scenario of P50. The downscaling software was MAGICC SCENGEN. Then, using descriptive-analytical method based on literature studies, the impacts of global warming on geopolitical developments in the global system has been analyzed. The approach is based on the concept of adaptive challenges and opportunities in terms of geopolitical powers.

Results and Discussion

According to outputs of General Circulation Models (GCMs) and based on P50 climate emission scenario (that is the average of pessimistic scenario), the mean of global temperature in year 2100 will increase approximately 3.2 °Cg compared to year 1990. This rate will be varying from 1.5 to 5° Cg in different regions of the world. What is important in term of geopolitical perspective will be consequence of global warming including rising temperature that lead to sea level rise up to 40 Cm. The rate of the sea level rise in different areas of the world will vary from 15 to 57 Cm. Basically, the role of global climate change in the geopolitical developments is associated with the geographical position of countries in the world with different effects. Because the perspective of the countries that are in high latitudes, such as Russia and Canada, would be different from island countries such as Britain. Another consequence of global warming is melting of glaciers in arctic. This will be as a source of freshwater for countries on arctic such as Russia and the countries will have the more favorable potential to trade in northern ports. In contrast, it would result in fundamental damages to tropical and island countries and the Middle East.

Conclusion

In this study, the environmental implications of global warming and its effects in terms of geopolitics have been studied. Concepts that have been studied in this research include: the role of global warming in geopolitical developments in the global system and the relationship between the geopolitical importance of countries and consequences of the global warming. According to the results of simulation in air temperature changes in year 2100, the different regions of the world will be affected by rising temperature and rising of sea level in deferent values. Generally, the global warming will affect the natural resources (biological, ecological resources, water and soil) and human systems (e.g., economic, migration). Such conditions would affect revenue of the countries. What this article is taken is the consequence of unequal distribution of rising sea levels, melting glaciers, and etc. in different countries of the world. It will be due to the geopolitical position of the countries of continental, marine, coastal, and longitude position. This condition would cause different foreign policy and often conflicts between powers of the world. As a result, the global geopolitical system will undergo significant changes in the future decades. Therefore, international cooperation and comprehensive

participation of all the countries in the global geopolitical system are the solution to achieve a balance in the global geopolitical system. That will be the adoption of local management in each country to the problem and determination of the best strategy to combat global warming.

Keywords: Competitiveness Powers, Geopolitical Developments, Geopolitics, Global Warming, International System.

***The Employment Situation in Rural Areas of Iran during 1956-2006
(Case Study: Rural Areas of Isfahan Province)***

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Extended Abstract

Introduction

Rural development has several dimensions including economic, social and cultural. Each of these dimensions has a considerable importance due to the impact and influence of the rural environment in planning. However, the villages have been faced with many problems over time. The most important of the problems is the employment and the challenges associated with that, especially in the recent decades (Qadiri Masom, 2010: 102). To achieve a suitable employment, it is necessary to create a favorable community. Because the most important condition for growth and community development is job creation (Çelik and Tatar, 2011: 1211). The employment in progress and development of human society has an important role from the distant past to now. But in the recent years the importance of employment can be seen clearly in all aspects of human life. The trend of employment evolutions review in different periods reveals its changes over time and determines the current situation of employment in different regions. It can provide the field of future planning for future employment development programs in different areas. According to the 2006 Population and Housing Census of Iran, the Isfahan Province is the most populated province in the country following two provinces of Tehran and Khorasan Razavi. About 760528 people of the population are now living in rural

areas. Approximately 85.5 percent of them were in the age of economic activity and about 44 percent were among the active population, and 55.5 percent were also inactive. Study of employment trends in three sectors of economic activity (agriculture, industry, and services), as influenced by the natural and the human factors can clarify the past and current status and provides a good platform for future planning (Qadiri Masom, 2005: 154). According to the contents, the basic question that the present study is sought to answer is how the process of employment transformation in the three sectors of economic activity are directioned in rural areas of Isfahan province during the years 1956-2006?

Methodology

Research methodology of this study was descriptive – analytical. The purpose of the study is to review the trend of employment evolutions in rural areas of the Iran during the past period (1956-2006). In Isfahan rural areas as case study. In order to achieve the purposes of the study, required data have been collected by relying on the Census documentation during the years 1956 to 2006. GIS and Excel applications have been used to draw maps and diagrams, respectively.

Results and Discussion

Results showed that the trend of employment in villages of the Isfahan province in contrast to the unemployment rate has an upward trend during the period of the study. This is influenced by various factors including economic, social, political and environmental issues. However, the trend of employment evolutions in various geographic areas of the province has not followed a similar trend. Rural areas, where have better features and the ability to attract more facilities, represent better employment situation and fewer changes. But it can certainly be said that the number of employees located in agricultural sector and animal husbandry has declined more significantly in villages of the province. The trends of employment in the villages of the province can be seen clearly towards service sector. The results also indicate that the population in activity age and the unemployment rate indicators in the rural areas have increased and that the indicators of the active population, the public rates of activity, the real rate activity and the employment rates have been declining. The employment rate in 2006 compared to 1956 in rural areas of Isfahan province shows a reduction of about 8.5%. From the results it can be argued that the majority of Isfahan rural employees had the tendency to move from the agricultural sector to other sectors, especially services, during the periods under study. In general, the number of employees has increased in the sectors of industry and services in the plain area with decrease in the agricultural sector. Reduction in the number of employees in the arid areas was in the agriculture and industry sector while the number has increased in the service sector. Like two other locations, the number of employees in the agricultural sector has declined and the number has not somewhat changed in the industry and services sector in mountainous temperate areas.

Conclusion

Despite the general trend of employment in rural areas of Isfahan Province from the agricultural

sector to industry and services ones, there are differences among the triple areas of the province. Thus, in both the plain and the dry arid areas the majority of employees were in industry sector and in mountainous areas the majority was engaged in the activities of agricultural sector. Therefore, it should be tried to provide all aspects for employment in the triple areas of the province. Then, there should be marketing for products of these rural areas. In three sectors of economic activity including agriculture, industry and services it can be advised to use new technologies. It is required to provide necessary conditions for education and communication of villagers. Conditions must be provided for the growth of small industries (handicrafts and agriculture small industries) in the rural areas and establishment of human resources employment sectors. By this way, those parts of the technical and production needs for industrial activities can be prepared in the villages.

Keywords: Agriculture, Employment, Industry, Isfahan Province, Rural Areas, Services.

Relationship between Development and Public Security in Administrative Divisions of Iran, Case of Qazvin Province

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Extended Abstract

Introduction

Space and the people are within the territorial sovereignty of a country's political system. Space and services for governments and people in space hierarchy are incorporated in appropriate administrative organization. Political organization of space in the form of a stage performance is considered as one of the most important parts of the division. The overall objective of the divisions can be appropriate framework for the continuation of national survival, national security, public safety, balanced development of regional units. On the other hand, indicators such as good access to services for residents in the political unit and the morale of public participation can create a secure environment for residents and expand the state's sovereignty. The underlying cause for this is an opportunity for public security. To prevent the eradication of poverty in the areas, and harmonious development of the same area is essential to benefit all areas of the facilities and growth. To provide facilities and efforts for social welfare of people in different areas it is necessary to consider developing regions. In a land of justice, proportionate and fair distribution of wealth, resources, and technologies must be considered in different regions. The injuries can be cause regional imbalances, unemployment and poverty, regional and ethnic discontent. These can create security problems for the country. However, dissatisfaction is resulted from lack of stimulus for this action. Iran is among countries where the political organization of space has its historical roots, so the Iranian government in this respect is faced with continuous and historical experiences. In Iran, the society is faced with many inequalities that often are interrelated to each other and sometimes together cause and

effect. From these inequalities, regional disparities of various kinds (city, village, center and periphery, and etc.) consist of income inequalities. This inequality in lifestyle, housing, health and education of individuals and regions is visible. Given the above introduction, this study has sought to develop communication and public safety divisions in Iran (Qazvin province was selected in the sample).

Methodology

This study sought to evaluate the assumptions by descriptive method based on the reasoning and analysis. Method of collecting data and information using various methods is generally based on field study and library. Classifying the data is mainly using analytical - descriptive analysis.

Results and Discussion

General consensus to provide a clear definition of both development and public safety issue is obviously difficult. It is the most important issues in society today, "along with the development of public safety". But the question for us is that the plan would be: public safety, which is developed, how it is achieved? Indeed, if development plans go forward regardless of social and cultural aspects, in the near future it will be faced with serious and complex crisis and seizures as risk factors in the community. The people and their livelihoods and social practices including the distribution of opportunities and possibilities for economic and social development and public safety are issues that should be studied. . However, the regional disparities can result in political instability - and hospital security for the development of critical areas for centralized administration is inconvenient. However, spatial inequalities in economic and social welfare, the development and continuing immigration will be from poor or poorer to richer areas. Thus, governments are forced to intervene to mitigate regional disparities.

Administrative divisions are part of a region or city and have long been a place of conflict for the people and authorities. Therefore, in some cases it can lead to controversy and chaos in a region and cause financial losses. Chaos in a few years ago in the city of Qazvin was disagreement about the House of Representatives. If you believe in such a witness increasing development and prosperity, and prosperity will be more to your location. Administrative divisions of geographical factors in the process of organizing political space have a direct impact on the fate of the inhabitants of a region. The objective of the separation of Qazvin from Zanjan Province has different effects on different aspects of development and public safety. In 1977, Central Province, Qazvin and Zanjan Provinces were in one province. Abstraction city of Qazvin province was more like an event or incident to an action plan. This occurred because the crisis was associated with unrest and irreparable damage in various aspects of political, security, economic issues. Economic separation of Qazvin - Zanjan political units figures into a heavy blow, since the most economic infrastructure - industrial services was concentrated in the superior province. Zanjan Province has up to 22164 square kilometer area. Due to the economic, social issues Zanjan Province were ranked high. . At the end of the first program (1993) it is ranked 11 in the province in terms of the degree of development. At the end of the second program (1999) in terms of the degree of development among the 28 provinces in the country it

was ranked 17th. On the other hand, the psychological dimension as well, according to field research is conducted in this regard.

One of the areas where public discontent is caused by the development is Qazvin. Background discussion of the Qazvin province in 1976 (the time of separation of Qazvin province) is representative of the newly separated province of Zanzan, Qazvin rule. The discontent among the people of Qazvin was continued after two decades of the separation. In 1994, people did not desire that this city as the city of Qazvin in particular.. When the government announced its plan for the province of Qazvin, people began to celebrate. But when the bill was presented to the House of Representatives, the opposition stated that in accordance with Article 9 of the Administrative divisions, Qazvin region was smaller than that it could be a independent province. The discontent in 1994 also continued to attack military sites, government offices and public places, causing the loss of documents, it was the demolition of buildings and looted property. Qazvin was the first government action to reduce people's dissatisfaction for its separation from Tehran. After the isolation of the province, relative peace was established in Qazvin city. In this period, Qazvin city representatives in Parliament spoke about the separation of Qazvin, Zanzan and Qazvin provinces in the future being expressed. The solution to this crisis of the province could be traded in the economy of the country.

Conclusion

The security requirements can be expected to sit and hold forth the development and not developed society can tolerate insecurity and instability. Development will undoubtedly lead to strengthening of security principles. Administrative divisions and area deprivation and specific conditions in the public perception of the development cause security issues. One of the constant demands of people living in each region is to upgrade its political units, elimination of exclusion and inequality and get more opportunities from the government. Hence, Qazvin is one of the areas where public discontent is caused by the development, as challenging for public safety. Overall demand for the province of Qazvin and Zanzan opposition is rooted in the following factors:

1. Feelings of capability and capacity in comparison with the authenticity of Zanzan city and economic indicators such as production centers, and population size.
2. An area more prone to boom to an independent administrative organization needs.
3. Less homogeneity between two of the cities.
4. Stay away from the province (Zanzan) compared with Tehran. The requests and demands from developing cause enormous security challenges in the region.

This research indicated that the turbulence by the opposition forces, the reaction initiated by the people who sympathize with a company and local officials were also canceled. Qazvin was the first government action to reduce people's dissatisfaction by considering their request for separation from its administration of Tehran to Zanzan. After the isolation, relative peace was established in Qazvin city. The solution to this crisis in Qazvin province could trade in the economy in the country. What of the potential and actual and numerous facilities, and facilities of agricultural, industrial, commercial and service sectors are among the first provinces in

developed countries. Finally, the findings have showed a significant relationship between development and public safety. This can also be concluded that the relationship between development and public safety division has affected the Iranian nation.

Keywords: Development, Iran, Public Security, Administrative Divisions, Qazvin Province.

***Comparative Analysis about Development of Subterranean
Transportation in Urban Spaces as a Tool to Reduce Air Pollution
(CO and PM) Case Studies: Tehran and Tokyo***

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Extended Abstract

Introduction

Air pollution is one of the major problems in the contemporary metropolis cities of developing countries. Indeed, it has happened, because of tremendous amount of private cars as media of communication in our complex urban areas. Occupation of the most of surface areas for traffic and transportation corridors and the nodes by the vehicles consuming fossil fuels, have caused air pollution. The main part of the polluted air is particulate material, and Carbon monoxide. Finally dies is and death are the dangerous result of this problem.

Nowadays, due to the high volume of traffic, low level of service and congestion, long journey time, more fuel is consumed in most of the streets of Tehran. Urban spaces on the ground level under dominance of vehicles have become unsuitable area for life. Therefore, it is obvious to think of some other media of traffic and transportation that helps to get rid of all above problems. Various experiences in developed cities such as Tokyo indicates that development of subterranean corridors and nodes for mass public transport and use of electricity instead of fossil fuels are the best solution to overcome the harsh situation of air pollution which we are facing nowadays in Tehran.

Methodology

In this applied research, the main goal is analysis of subterranean urban space (transport corridors and nodes) features in various dimensions for reducing air pollution in capital cities like Tehran and Tokyo. The main question is how development of underground transport spaces can affect the reduction of air pollution in urban areas. This question has been answered through comparative analysis (by help of data collected through library and observation from field survey) between Tehran and Tokyo subterranean transport urban spaces.

Results and Discussion

Although, there has been a lot of effort to reduce air pollution in Tehran, but by reducing the distance and time of all trips within the city, changing the fossil fuel consumption to electricity and filtration of polluted air, we can expect a better condition than what is happening right now.

There are various ways to reduce travel distance of trips within a metropolitan city. Choosing the shortest roots would help reduce the journey time. But, it is very costly to implement such type of plans on ground level, in an existing situation within a built environment. Therefore, subterranean passages become more economical as far as the cost of building is concerned. Reliance on public transportation instead of private motor vehicles is another way of reducing traffic volume and congestion which can ultimately help in reducing air pollution.

Building bridges and higher level of roads to create shorter distances is also another way of providing traffic and transport facilities. However, they look some kind of imposed structure to our urban environment. They visually cause problem in our urban environment.

Bridges and higher level of roads would also detract from the vitality and richness of the visual quality of our environment. Therefore, underground communication artery in comparison with above ground roads and bridges (roadway), with regard to the points mentioned above, will be much more useful as one of the other factors that can cause the reduction in travel time within the city by shortening of the journey distance. This factor depends on the quality of traffic flowing. If the roadway capacity is responsive to the volume of traffic and traffic is fluent, then the journey time would automatically be reduced. This is what is called a good level of serves. This can also be achieved easily through underground subways.

Controlling and treatment and filtration of pollution from motor vehicles on surface level which are open to sky are almost impossible. However, the pollution from vehicles produced in a tunnels and underground space transportation will be obviously easier to refined impurities. Transportation network of Metro is one type of the underground transport spaces which would create better condition for air filtration. Metro, due to the use of electrical energy instead of fossil fuels such as gasoline and diesel fuel has an important role in reducing air pollution in the metropolitan. According to our observation, inhabitants of Tokyo are more familiar with underground network plan of Tokyo than surface level map.

Tokyo has one of the largest subterranean metro networks in the world. This has resulted in reduction of air pollution as described above. The Comparative Analysis of Development of Underground Transportation urban spaces as a Tool to Reduce Air Pollution (CO & PM) through Case Studies of Tehran and Tokyo indicates that Tokyo is much more successful (considering all aspect mentioned above) than Tehran.

Conclusion

Finally, it can be concluded that Tokyo compared to Tehran has been more successful to reduce major part of air pollution (CO & PM) by development of underground great pattern of traffic and transportation. This has also caused the reduction of travel time and distance of transport within the city. Therefore, Tehran where is facing serious problem of air pollution should develop its underground public subways system instead of constructing roadways above ground level for private vehicles.

Finally, in a metropolitan like Tehran, this can be recommended that: 1. In the areas facing serious problems of air pollution (such as carbon monoxide etc.) instead of planning, design, and construction of two stories of high ways for car and private vehicles, it seems better to develop the ground subways. 2. The main road intersections and crossing shall be designed and constructed in a sophisticated way so that, minimize the conflict points and I. O. S. 3. There shall be combined civic centers. There should also be CBD main subway stations and public urban spaces to help better mass transportations and segregated pedestrian and vehicular traffic. 4. All the arteries witch slices in the residential envelops and other public spaces (like Kordestan and Kaveh arteries in Tehran) shall be converted into subterranean subway for mass traffic and transportation of people.

Keywords: Air Pollution, Tehran, Tokyo, Subterranean Transportation, Urban Spaces.

***Comparative Study about Performance of Multi-Criteria
Analysis in Study of Land Suitability
(Case Study: Site Selection of Municipal Waste Landfill in Shiraz City)***

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Extended Abstract

Introduction

Using multi-criteria models and techniques in conjunction with GIS capabilities can be considered as one of the most outstanding aspects in application of decision support systems (DSS) in the decision process. Using decision rules, we can classify alternatives according to priority in the process of site selection. There are several decision rules in the field of multi-criteria decision making (MCDM) techniques for determining the appropriateness of land use, such as WLC SAW, AHP, and TOPSIS. Today, it is necessary both to consider the circumstances of carrying out these techniques with principles in the particulate applied fields and to make efforts on the comparative examination on performance of several methods in a particular subject. Continuous consideration to these points can greatly influence the application of multi-criteria analysis techniques and rules in the decision process. Accordingly, in this research, there is an intention to test the operational capabilities of TOPSIS and WLC models as two prominent examples of the multi-criteria analysis techniques in the experimental field of site selection for municipal waste landfill in Shiraz. In the next step, we can provide the pattern for prioritizing the use of these methods in a particular applied field.

Methodology

Data and tools that are used in this test are maps and archives of information. The data are collected to define the criteria and constraints that can be applied to determine the desirability of

lands in the locating Municipal waste landfill in Shiraz. In this study, some software applications have been employed for data entry, data storage, data management, data processing, data analysis, etc. These are Excel 2007, ArcGIS 9.3, ARCVIEW 3.3 Kilimanjaro IDRISI, and ILWIS 3.3. The main steps in the process of the study as the research methodology are:

1. Preparing criterion and constraint maps for locating landfills, which led to definition of 26 criteria and 21 constraints.
2. Valuation and standardization of criteria maps: the process of valuation and standardization was performed based on value of membership in FUZZY set. Standardization was performed using the possibilities that exist in the FUZZY function of IDRISI Kilimanjaro application.
3. Weighting of criteria maps: in this step we have tried to determine weights of criteria and criterion significance coefficient by using CRITIC method.
4. Operational use of multi-criteria decision rules and modeling the choices of multi-criteria analysis techniques: in this step, there is the intention to test the operational capabilities of TOPSIS and WLC models as two prominent examples of multi-criteria analysis techniques; in the experimental field of site selection for municipal waste landfill in Shiraz. Thus, we have provided the pattern for prioritizing the use of these methods in a particular applied field. In the framework of presented pattern it is assumed that higher pixels values screening in the output of each model can be viewed as a positive point for applying the model.

Results and Discussion

In this research, classified maps that involve suitability of locations for municipal waste landfill sites are obtained by the operational procedures and guidelines that can be considered in the process of using TOPSIS and WLC methods. In the obtained maps, as the score of each pixel value approaches to 250 it indicates favorable conditions of that pixel as a suitable site for municipal waste landfill. With the constraints, these pixels can be used proportionally for the time that there are the need for allocation of that area to the land use type in a particular area. Therefore, the obtained maps can be used as guidance by the decision makers in the selection of appropriate locations for municipal waste landfill. Comparison on the rate of screening in the outputs of TOPSIS and WLC models shows that, according to the given utility thresholds in site selection of landfill in study area, the rate of the screening in the output of TOPSIS model is more than that of WLC model. Therefore, the situation in the selection of preferable pixels can reveal that application of TOPSIS model in this particular applied field is recommended.

Conclusion

In this paper, with the specified area of the Shiraz as a case study, capabilities and operational mechanisms of TOPSIS and WLC models has been tested in the site selection of municipal waste landfill. There was the interest in testing the operational capabilities of TOPSIS and

WLC models as two prominent examples of the multi-criteria analysis techniques; This was in the experimental field of the site selection for municipal waste landfill in Shiraz. In the next step, we have provided the pattern for prioritizing the use of these methods in a particular applied field. In the framework of presented pattern it is assumed that the higher pixel values screening in the output of each model, as can be investigated in the each level of utility threshold, is considered as a positive point for applying the model at the selected area, with the utility thresholds.

For further documentation of the validity of land use suitability map that has been acquired in the process of using TOPSIS, we have tried to investigate the characteristic of two sample pixels that are selected as preferable and are located on the area with no constraints, and qualified with the defined criteria. Results of the investigations indicate that the preferable pixels in the output map have the optimal conditions in terms of defined criteria. For example, one of the pixels that have been selected as a preferable pixel has suitability score more than 250, in the 19 criteria and is located in the acceptable condition in terms of degree of membership in fuzzy function.

Keywords: Decision Rules, Multi-criteria Evaluation, Municipal Waste Landfill, Shiraz, Site Selection.

The Role of Geography and Culture in Formation of House Roof

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Extended Abstract

Introduction

There are many factors on formation elements of architecture, such as environmental characteristics and climatic phenomena as the most important. Some factors such as natural environment and consequently domestic materials, temperature, rainfall, and sun radiation were the most important factors in the past. They had the most effect on the form of architectural spaces. Thus, in the normal condition in the past, the wooden structures were commonly used in the forest and green environments and the mud-brick structures were used in the hot and arid areas.

The materials and structures as the environmental phenomena affected the architectural spaces and the relations between open and closed spaces. They also determined the shape of roof in buildings. Of course, many other factors such as culture and cultural exchanges between nations, the style of life and economic factors were important.

Methodology

This research has been prepared using descriptive-analytical method. In this research, the effects of geography and climate on the shape of roof building have been considered. There are some intervening variables such as some forms and elements that have symbolic meaning and were used in some kinds of buildings, especially in ritual buildings. Some foreign elements and forms in roof buildings are other kinds of intervening variables. Statistical society in this research is Iran, but some examples have been used from other countries.

Results and Discussion

The results of this research show that the shape of building roof was formed on the basis of

geographical factors in the first step, as sloped roofs were used in the northern coastal region in Iran with temperate rainy climate, arced roofs were usually used in the central plateau region with hot and dry climate and flat roofs were also used in the most parts of the southern coastal region, with hot and humid climate. The direct relation between climate and roof shape can be seen more in residential units in the past, but in some ritual and some governmental buildings, specially in big and important ritual building, some other factors such as symbolism and to some fashion could be considered. For example, there were examples of some mosques with domes built in a region with sloped roofs of all other buildings, because some people in some periods thought that a dome can be better for a mosque. For example, Akbarieh Mosque in Lahijan, with rainy climatic condition, have some domes, but because of rain, there are a sloped roof on the domes, and people who go to mosque, can see domes in internal space, but in outside, the sloped roof can be seen.

In some other cases, a supreme fashion for some governmental buildings can be observed from past centuries. For example, in Takht Jamshid (Parseh), there were flat roofs, while in that region buildings are mainly structured by domes because there were not enough tree and wood for covering roofs. It seems that usage of that kind of roofs was for making a difference in shape of governmental buildings from the other public buildings at that time. This subject can be strengthened by the old texts that describe they had carried wooden beam from Lebanon to Iran for ceiling roofs. In another field, we can pay attention to some buildings roof, specially the roofs of houses and usual buildings.

Ruff form in ritual buildings can also be related to patterns of cultural values and religious and social factors. Some architectural forms and elements of semantics have been preserved into domestic level, even though materials and geographical conditions or systems of structures. A particular form or element of semantic architecture had gained an important meaning within a religious and cult system. Vernacular architecture was constituted to express harmony in structure components, from the largest elements such as roofs and the whole parts of a building to smaller elements and details.

Conclusion

The shape of roof in residential buildings in the past was formed on the basis of environmental and geographical characteristics and conditions. Some geographical factors such as native materials and climate conditions affected the shape of roofs directly but some others affected them indirectly.

In addition to these factors, application of roof as a resting and sleeping place in some seasons in the night was caused that some arced roof transformed into flat roof.

The influence of some cultural factors on roof shape can be observed in ritual and some governmental buildings.

By these discussions it can be concluded that:

- Roof is the upper part of a building and in addition to having an architectural role; it has an urbanism aspect that can be seen from distant.

- Roof is at the top of a building; this can be representative of the position of inhabitants.
- Roof was an important part of a building because it must be resistant against rain and snow.
- The form of roof could be very important for ventilation in the past.
- The form of roof in religious building was very important, because it could represent the importance of a building.
- The roof of a building in the past was the first structural sign of a structure.

Keywords: Culture, House, Material, Geography, Roof.

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