

Empowerment and Organization of Informal Settlements of Abhar City

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Extended Abstract

Introduction

During recent decades, increasing growth of urban areas and the changes occurred in economic, social and political sections caused many problems. Some of the problems are formation of informal residential areas or slum dwelling around the cities. The problems are dependent upon the condition of the residential areas. Informal settlement or slum dwelling is a specific way of occupancy with diverse problems resulted from rapid urbanization along with exceeded needs and expectations of existing facilities and capacities in a society. This phenomenon, in its applied form, developed from inside or neighborhood of major cities (mainly megalopolises, capital cities and growing cities), particularly, in such areas where they have poor control and supervision to deal with management and formal planning. Today, informal settlements in most cities of developing countries are one of the major problems. Informal settlement is a growing phenomenon. In fact, it is a certain lifestyle, which changes the face of many cities. Abhar City also shows the same signs of this phenomenon. In Abhar and its Hossein Abad district, tendency to live in the city and urbanism is different depending on income rate and social, cultural and economic status of the people. The social ecology of Abhar and its physical and socio-economic characteristics are accompanied with a focus on the problems resulting from poverty in Hossein Abad. All of these issues caused unsustainable development pattern in their spatial district organization. One physical aspect of this situation is the formation of informal, spontaneous, automotive, unplanned, illegal, or disorganized settlements, and finally so-called slum dwelling in Hossein Abad district.

Methodology

The main purpose of this paper is to empower spontaneous (informal) settlements in Hossein Abad district of Abhar city. To achieve this goal, we should identify, evaluate, and analyze the structure and form of the informal settlements in Abhar to improve the organization of the settlements and create sustainability of urban areas. Furthermore, we should identify and examine the latest strategies dealing with the issue and study the feasibility of using the most

appropriate strategies, keeping in mind the conditions of this city and the region in the country. The second objective of the present paper is to provide a general picture of the formation and growth processes of the informal settlements as well as to identify the radical factors with a focus on Iran and particularly on Abhar city as case study. To do so, we studied the feasibility of applying the most successful methods used in organizing, empowering and laying out the settlements according to their economic, social, political and physical limits. Therefore, we tried to identify and evaluate the strengths and weaknesses, opportunities and threats in the current situation of these settlements, in order to indicate appropriate approaches and strategies to improve environmental conditions of the settlements. To achieve this, it is required to forecast informal settlements for housing planning, particularly for low-income groups who are in need of house and lacking affordable housing in urban areas. The method used in this study was correlation survey method and its range was small scale of depth oriented.

Analysis of the data needed to empower and organize the informal settlements of Hossein Abad district in Abhar city was carried out using a mixed model of SWOT-AHP (Strengths, Weaknesses, Opportunities, Threats-Analytical Hierarchy Process). For this purpose, the model was used in four phases in a hierarchy manner:

1. Assessing internal and external strategic factors of the neighborhood.
2. Performing a pairwise comparison of the groups.
3. Developing strategies for the SWOT model.
4. Prioritizing the strategies by using matrix QSPM (Quantitative Strategic Planning matrix).

The main strengths, weaknesses, opportunities and threats dealing with rating were analyzed in separate groups based on SWOT model and specified situation of Hossein Abad district in Abhar.

Results and Discussion

The results of this study showed that the main weakness, in the weakness groups, was the lack of motivation to improve self-initiated housing process because of high informality concerning the settlements. The major strength was the appropriate access to the related roads in the city, which had a final high rate in the strength groups. The most important threat, in the threat groups, was the high rate of upward trend to social abnormalities across the districts of the city. The most important opportunity was the refurbishment of deteriorated buildings by the Organization of Housing and Urbanization of Iran with a final high rate in the opportunity groups.

Conclusion

The results from pairwise comparison groups of SWOT in relation with empowerment of informal settlements in Hossein Abad in Abhar city show that among the internal factors, whole points of weakness (0.435) are higher than the points of strength (0.156). This, in turn, shows the superiority and dominance of the strengths. However, in external factors, the opportunity groups have better status with overall score (0.308) in comparison with that of threat groups (0.101). In fact, what the residents of informal settlements need is to have the chance to improve their life conditions and playing a more important role in the affairs of their own cities. The resources spent to improve the marginalized areas are the investments that yield returns in the urban economy and social conditions. Research findings indicated a very high affinity in different age and gender groups of the inhabitant population to participate fully in organization of Hossein Abad neighborhood in Abhar. Therefore, in this study, the spontaneous settlements in Abhar were selected as informal settlements with unusual living conditions to analyze the internal and external factors causing the above mentioned issues. Finally, we tried to identify and provide solutions for empowering these kinds of places and to develop an appropriate model for community empowerment of Hossein Abad in Abhar city.

Keywords: Abhar City, empowerment, informal settlement, mixed SWOT-AHP model, organization.

New Look at the Future of Passive Defense and Multipurpose Uses: New Approach in Urban Sustainable Development and Security with Emphasis on Earthquake Susceptibility of Tabriz City

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Extended Abstract

Introduction

Passive defense has entered into new field of study in the recent era as an outcome from science and technology. One of the fields playing a very important role in completing the defensive objects is urban geography and its regulations for earthquake hazards, as well. The fact is that earthquake as a natural phenomenon has not contained disastrous consequences in its own right, but what is resulted from the phenomenon as a catastrophe and disaster is the lack of human preparation and prevention against the event and its aftermath. Many researches aim to reduce the outcomes of earthquake to find constructional methodology of buildings for increase in building resistance in front of the earthquakes. The city of Tabriz is one of the important cities of Iran where has been placed in a location with relative high risks of earthquake disasters. The North Fault is in the vicinity of the city and even some parts of the city have been built over the fault. This fault in Tabriz has caused destructive earthquakes in long history and can also demolish the city as a ruin again with its renewed activity. This study considers a strategic role and necessity for establishment of multi dimensions uses for the city development in the future. It contains the effects of passive defense in the city in terms of some strategic fields of urban land uses planning such as: natural and geographical studies for applying urban land uses. Ultimately it deals with needs and attentions to the constructions of mutual purpose and multipurpose for projects like urban development.

It is important that we know all the hazards existing in a region and some parts exposed to the disasters by the greatest potentials because it has been conducted a planning to prevent the events that can contain countless destructive outcomes. Meanwhile, passive defense is one of

the most impressive and sustainable methods for defending against crises. It disserved to address the defense and its considerations and regulations so that most countries in the world do not adequately regard the issue. Even the states like US and Soviet Union with high capacity in their military forces paid a specific attention to this subject. With the importance of this subject, establishment of multi-purpose and mutual-purpose use and their role in development project and urban development, it can led to successful management of crisis and mechanisms for urban sustainable development and resident security.

Methodology

The methodology of this research has been based on analytical and description. In the method data and information were collected and gathered from documents and sources available in library. The analyses have been accomplished by GIS and data from Population Blocs in statistical center of Iran for this metropolitan area and the maps related to our research. In the way, first, the land use map and green and open space land use map and then some maps for urban sensitive and strategic centers such as rescue and relief centers and urban streets have been prepared for the analysis. Finally, the results and analyses have been taken according to the principals and rules of passive defense throughout all 9 zones ratified in detailed plans for Tabriz metropolis.

Results and Discussion

According to the map number 2 about slope and all information in terms of steep slope and its costs, zones 1, 8 and 2 cannot be favorite and suitable locations for urban development and deployment of multipurpose and mutual purpose land uses as they are near endangered places such as the fault line. But it should be mentioned that the zones 4, 3, 7 and 9 could become appropriate places for urban development and they are the best option for development and also multipurpose and mutual purpose land uses. The zones of 7 and 9 and, in part, 3 and 4 are useful for blinding of contemporary centers for residents and multipurpose land uses in the frame of green and recreational spaces. They have to do some attempts and efforts for the sake of the organization of such endangered land uses in these crises. The zones of the city including zone 2 should prevent and avoid to be constructed near and over the fault line.

As it is obvious from the map of separate parcels, internal zones such as 2, 5, 6, and partly 4 have the lands with 200 meters width and zone 8 is also located over the fault line which it can led to high costs and harmful effects for inhabitants of the city as well as for the urban facilities and equipment. Only zones 7 and 9 and to some extend zone 3 have more demands and it can strengthen for these zones in the city and its urban structure based on the establishment of multipurpose and mutual purpose land uses.

Conclusion

Defending methods of passive defense in various periods have been appeared regarding to the available potentials and facilities and the circumstances of that period when most of the methods was very useful in the time. Security and sustainability of settlements against natural hazards was always preoccupied urban planners. Earthquake is one of these natural and environmental hazards that are threatening human settlements and the life of human beings in a long time. Event an earthquake can cause severe damage and destruction in a short time. However, with consideration of passive defense rules and regulations, and the sorts of crises and the importance of land use, it is trying to realize critical, vulnerable and sensitive points in a city and can afford and then control necessary actions to solve available problems and limitations. Therefore, the relevant subjects such as passive defense will be useful and in the area multiple and bilateral land uses are benefited greatly. As mentioned before about the passive defense and its rules and principals, it is necessary to consider the multipurpose and mutual purpose and also some

solutions like maps of street networks and opened and green spaces in the area surrounding the fault of Tabriz. Therefore, the regions 3 and 9 and partly regions of 4 and 7 are suitable places for establishing of temporary settlement in terms of Parks and appropriate and favorite urban recreational places. Cultural, medical and educational land uses are better to be located in this zone. The other endangered zones can be designed for such effective and safety condition that in the time of hazards and natural catastrophe and after that to be used as temporary shelters.

Keywords: earthquake, multipurpose uses, passive defense, Tabriz, urban security.

Spatial Analysis of Crime Prone Centers in Different Districts of Yazd City, with Emphasis on Cultural Planning

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Extended Abstract

Introduction

Physical features and social, economical, and cultural characteristics influencing some parts of a city cause formation of criminal opportunities and criminal intentions. Thus, development of cities creates crime centers in some districts which have higher criminal incidents compared with other ones. One could say that since there are ethnic, cultural, and economical variations, this problem could not be blamed on the city and its physical construct. With population growth a decrease can be observed in social adaptation and solidarity. Thus, control of society is weaker and social unrest and rate of different types of criminal activities may be increased. Study about the relation between location and criminal behavior utilizing the social ecology theory in modern method was started in the first part on nineteen century. Jeffery was the first person who proposed the crime prevention theory by environment designing and emphasized on opportunities that environment provides for criminals and believed these crimes are consequences of these environmental opportunities. In this context, opportunity theory has increased positive role of criminal conditions and negative role of crime prevention factors, and also possibility for a crime to take place. On the contrary, reduction in criminal opportunities decreases the possibility for a crime to take place. Since criminal patterns are affected by the type of field, molding features or population and cultural features, these factors are very effective in formation of criminal centers. This paper investigates the crime potent centers throughout different districts of Yazd with emphasis on cultural planning and development.

Methodology

With respect to the components under study, the research method is descriptive and analytical. Statistical population is 42 neighborhoods of Yazd city. For analysis of the information we have used statistical tests such as Average Center (an approximate measure for comparing the spatial distribution of all kinds of crimes), Distance standard deviation (for comparison of the all kinds of crimes or one type of crime in time periods), Ellipse standard deviation (to show levels of dispersion) as well as statistical methods based on graphics including kernel density estimation for demonstration of crime centers. Dedicational statistical tests including simple regression coefficient is employed to analyze and evaluate the relationship between cultural elements and the kinds of crimes.

Results and Discussion

The population of Yazd was 432194 people in 2006. It is spread through 3 communities and 43 districts. District 2-1-3 has the highest population of 27607 and the lowest population of 1311 people. It belongs to district 5-1-1. The average of educated people over the whole city is equal to 87.2 percent in 1996 which is undergoing a change due to the traditional structure and different social groups. Development of Yazd districts especially in the marginal areas has caused movement of new immigrants to the city and these two have a direct interaction. 20 hectares of land in Yazd is used for cultural and 51 hectares is used for religious purposes. Field study of the role of cultural factors shows that social problems and criminal activities have been increased due to unemployment, reduction in religious believes, decrease in family interactions and visiting, increase in level of expectations, different social classes, absence of people in religious milieus, and less conviction towards religion, clash of generations.

Conclusion

For this analysis different statistical data have been used. Based on Cornell's estimation of population, Imam Shahr, Azad Shahr, airport district, Safaiye, and Atashkadeh have the highest rates of crime. The point of average center shows different kinds of crimes, including drug addiction, kidnapping, drinking, street assaults, and bad checks, are initiated from central part of the city (Khoramshad, Sare Dorahi) and goes on to Imam Shahr, Azad Shahr in the north and northwest and Akbar Abad, Rail road station district in the south and southwest. The elliptical direction of the deviation of the criteria is from south-west (Imam Shahr and Khoramshad) to northwest (Azad Shahr) and southwest (Rail road station). The index of nearest neighbor also shows crimes such as drug addiction, drinking, and kidnapping are of the cluster type and street assault and bad checks are spread throughout the city in a random fashion. According to the linear regression, an increase in cultural and religious elements decreases the crime level throughout the city. About 99% for F statistic also emphasizes on the importance of the relationship between the two variables.

Given that the commitment of different kinds of crimes needs its own space, some solutions can be suggested to decrease the rate of crime. The solutions are pathology examination of the areas of crime concentration throughout the city of Yazd, establishment of cultural and religious places in areas of need, informing families through cultural and religious programs for crime prevention, advertising Islamic values and using actors to participate in crime prevention programs, reinforcing the areas of criminal activities against fraud, and improving some of the facilities such as proper lighting and controlling traffic.

Keywords: centers of crime, cultural planning, spatial analysis, Yazd.

Assessment of Establishment of Education Spaces by Mixed Model of TOPSIS and Shannon Entropy

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Extended Abstract

Introduction

Educational spaces are considered as the most important urban areas. Determining the optimal establishment of schools in urban areas is one of the duties of urban planners. In the recent years, increasing urbanization caused poor arrangement of educational spaces, so that urban population has difficulties in accessing to the education. In spite of the important role of educational spaces in the quality of education and their great effects on applying educational programs, little attention was paid to location and organization of educational spaces in Iran, like the most of the developing countries. In fact, population areas are spatially resulted from natural, social, economic and physical relations, which are organized in the natural environment, and social and economic activities with interactions between human beings and the environment. If the service centers, especially educational centers, are located properly, this correlation will be higher. To establish appropriate and reasonable educational facilities, efficient use of scientific and sufficient methods would be necessary. The reason for this is that use of precise quantitative tools makes it possible to evaluate more precisely the establishment of schools being studied in this research.

Methodology

The examination about how female schools are established in the second educational region of Zanzan was conducted by a combined model taking into account outdoor spaces and classrooms per capita, accessibility, building date and traffic safety. Therefore, this is an applied research with descriptive-analytical method. Statistical population is whole population and the students in the scope of the second educational region of Zanzan city, separated by the areas and blocks. In the present research, the sample is the very same statistical population. The research method is descriptive – analytical and necessary data for the research were gathered through detailed library studies, documents, observation, questionnaire, and field works. The status of physical,

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economic, social and administrative domains was also studied. The objective of the present paper is to analyze educational locations in secondary schools of the second educational region in Zanjan city and to evaluate the current situation of educational spaces. Furthermore, it is tried to develop an optimal model in order to establish educational spaces properly and to increase efficiency and convenience of their utilization in the spatial levels.

Results and Discussion

The results of the study revealed that current location of most of the studied schools do not meet standards for educational facilities. Various factors should be considered in proper establishment of the schools. Some of the schools are fixed and others are variable, that is, some of them may change over time and others remain unchanged. Most of the schools established in the center of city have higher age and many of them were constructed with materials of low resistance. These schools are among the places with lower range of outdoor and classroom per capita relative to common standards. Moreover, they often are located in crowded and dangerous places for the students. The most incompatibility is related to the schools located on the crowded streets resulting in several problems such as noise and air pollution and crashes occurring to the students by passing vehicles. According to the distribution of educational spaces in female secondary schools, it was noticed that most schools are not distributed according to the requirements of student population and cannot meet the real needs of the studied school. There is no female secondary school in the east and north-east part of the second educational region of Zanjan.

The results of weighting of final matrix showed that the whole rate of minimum accessibility (0.1635) in relation to the highest rate (0.7942) is in very high level. This shows the superiority and dominance of the potential weaknesses compared with the capabilities. This indicated that the existing capacities were not used properly to overcome the weaknesses. The greatest difficulties in educational areas are related not only to the buildings and non-standard areas but also to their location and inconvenience in the student access to the educational spaces.

Conclusion

These findings suggest the superiority and dominance of the weaknesses in comparison with the capacities of the studied schools. Moreover, the final weighting matrix showed that six schools out of the 12 ones received the lowest rates of accessibilities. Due to the factors affecting the construction of the educational buildings, it is proposed that we should not consider simply one factor in construction of educational space. For example, the number of students or depreciation of the space or the year of its construction, all should be considered and all aspects should be evaluated systematically to build a school. Some existing educational spaces have some problems such as their inappropriate location in incompatible land use, particularly those with high traffic routes; lack of the possibility to change the use of adjacent spaces; and impossibility to move educational units from the existing educational facilities to other convenient location. Therefore, the simplest, most cost-effective and practical solutions to solve the mentioned problems are use of double-glazed windows; planting dense trees to reduce noise pollution; construction of appropriate area, building proper entrances and good views, and so on. If there are necessary facilities and budget, then the reasonable method will be used to change incompatible land use in educational neighborhood areas or to transfer the educational units to a proper place. It is difficult to alter the adjacent inappropriate educational environments. Dealing with land uses on the rivers and crowded streets would be appropriate to adopt such measures as change in the location and the entrance and exit direction of doors in educational areas. These measures can avoid direct contact of students with the main streets, roads, intersections and squares.

Keywords: school ranking, secondary school, Shannon Entropy model, TOPSIS model, Zanjan City.

Investigation about Progress of NATO towards the East and the US Domination over the Strategic Eurasia Region with the Use of SWOT Analytical Model

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Extended Abstract

Introduction

With a glance at the international system after the collapse of Soviet, one can understand that the US has been able to represent itself as a dominant state in international issues. This was through continuing unilateralism with the help of NATO and occupying some regions under the name of global security and stability. The change of NATO from a security organization to an organization which follows cultural, political, economic, and militarization goals has been very helpful in making the so-called process easy. NATO's programs under the "PFP" in Eurasia were performed with the highest level of accuracy and astuteness. Such issues made Russia think about confronting with the West, US and NATO's program. The intervening process in Afghanistan, Central Asia and the Caucasus, and the issues like energy of Caspian Sea, dangerous convergence over the SCO, and carefully choosing some members of supervisory such as India and Iran indicate a possible confrontation with NATO and the West. It may also be possible to consider this as a continuation of another Cold War. This organization can play an important role in the future of the world energy. Given the Caspian oil and natural gas reserves, Russia and Iran can become the nightmare of the West. With respect to the strengths, weaknesses, opportunities, and threats that NATO can be faced with in Eurasia, this research tries to reveal the fact that it is possible for the West, NATO, and the US to have serious political, economic, and security conflicts with other regional countries. The base of these conflicts can be focused mainly on the energy security. The researcher tries to address the following questions: Can Caspian and Eurasian countries confront with NATO and the West? To what extent can energy be a challenge for the West in this process? What are the strengths, weaknesses, opportunities, and threats that NATO is faced with? What strategies can NATO use to make the West's interests stable in Eurasia? What are the confronting strategies for Eurasian countries to confront with NATO?

Methodology

THE research methodology will be cross-sectional and library based with using the books and articles. Besides, global energy organizations data and statistics will be used. SWOT analytical model will be employed for the qualitative analysis. It expresses strengths, weaknesses,

opportunities, and threats, and their related strategies. In fact, the analysis of strengths and weaknesses is in internal environment, and the analysis of opportunities and threats is in external environment of this model (Mafi, Saghayi, 2009: 33)

Results and Discussion

The research findings include the strengths, weaknesses, opportunities, and threats that NATO and the US are faced with in their domination over Eurasia. It can also reveal that strengths and opportunities have more advantages than the weaknesses and threats. Accordingly, these strategies also show the continued domination over this strategic region. The West has a variety of choices in adopting strategies. It can adopt its defensive and competitive strategies much more peacefully. Instead, although regional countries appear to be a threat for the West, their behavior in the last two decades has been quite defensive and has eventually led to the formation of some security-defensive agencies which have only adopted defensive strategies. The present research shows that the West has been successful in achieving its geopolitical goals and forming its domination in Central Asia and the Caucasus without any conflict and domination over energy reserves and interests, and controlling important rivals.

Conclusion

Despite the appropriate potential strengths in Eurasia for convergence and eventual achievement of the interests, in the years after the collapse of Soviet, the West has been able to gain access to this strategic region where has always been the center of attention for colonial powers, with paying very scarce expenses and with the support from its security and military arm (i.e. NATO). With PFP, NATO has been able to start a relationship with all the former Soviet countries and associate with them under the name of helping. Extensive markets, rich energy reserves, and needs of the countries are the reasons that have encouraged the West for the slow occupation of this region.

However, despite the unique strengths and exquisite opportunities of this region, there are also some threats and weaknesses. The presence of countries like Russia, China, Iran, and Shanghai Cooperation Organization, the extension of China and India's process of industrialization, fighting against the US unilateralism and other factors can cause a challenge for the West. It also awakens the Eurasian countries in order not to give their primary sources and markets to the West very easily. It seems that the West is playing a zero-sum game in this region. The process is the other way around the existing potentials in this area.

In this discussion, with its focus on the analysis of NATO and the West presence in Eurasia and the possibility or impossibility of confrontation for the regional countries, NATO's weaknesses, threats, opportunities, and strengths have been shown using a qualitative descriptive analysis. Now, regional countries are not able to confront with NATO and it is better for them to adopt defensive strategies against the West and NATO to keep the present conditions. However, they can reinforce their strengths and change their defensive strategy to offensive one in the future in order to maintain the balance between the West and Eurasia.

Taking advantage of the West weaknesses, which their basis is on the energy need, can change the existing confrontation into interaction. Although the West and NATO are able to adopt an offensive strategy, they will try to avoid that because they need the market and energy of the region. They have to adopt the same strategy as the regional countries, i.e. defensive-interactive, in order to gain the maximum of interests.

Keywords: Caspian Sea Region, energy security, Eurasia region, NATO, SWOT.

Analysis of the Northern Ports of Iran in Regional Development

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Extended Abstract

Interdiction

Nowadays, a great mass of goods and effective services in economy of countries and coastal areas is transported through the sea which has spawned considerable interest due to its necessity and positive properties. As the seaport plays a very important role in development of geographical areas, its potentials and advantages should be evaluated. As the process of development is not the same in different countries with different levels within development process in the provinces and regions. Development of provinces and regions of the country due to the heterogeneous spatial distribution of resources may be out of process. In other words, due to regional capacities and comparative advantages, the development of these areas is different or even inappropriate. Development and evaluation of the potential development areas is one of the subjects of geography, therefore, the theoretical foundations of the science can be seen in this area. It is necessary to assess the potential and advantages of port cities. Given the key role in the development of regional ports, planners need to identify the opportunities and benefits of these cities to play their role in the development of geographic areas. The regional studies are attempting to find capabilities and capacity for growth and development in each region. In the present research, the facilities of each seaport of northern areas are specified and evaluated from the standpoints of economy, efficiency and equipment. In fact, the purpose of this study is to identify the capabilities and their proportional advantages for development of this region.

Methodology

This research has a descriptive – analytical methodology. To collect data, it is necessary to consider documents based on the libraries and filed studies. Geographical considerations about the northern seaports of the country have been performed using the AHP model. In this research, since the purpose is the identification of relative advantages for regional development, 3 seaports of Novshahr, Anzali and Amirabad (Behshahr) were selected based on their efficiency in northern region of the country. Based on the multivariate analysis model of AHP, one of the ports was specified as the most appropriate with the most potential of development in the region.

Results and Discussion

The northern seaports were evaluated in two steps in such a way that in first step, the seaports of Mazandaran province were compared and the better ports were identified based on the considered criteria. In next step, the best selected port of Mazandaran province was compared with Anzali seaport as the best port of Guilan province. The methods and principles of the comparison are presented in each step.

At this point, Analytical Hierarchy Process (AHP) method is used to make a comparison in the importance of the options in the ports. The AHP is based on the judgment; the result is a relative judgment that can vary from person to person. In addition, it requires cumbersome mathematics, so it is easy to understand and can effectively control both quantitative and qualitative data.

The first step in the analytic hierarchy process is creation of a hierarchical structure in which the objectives, criteria, options and the relationship between them is shown. Four important next steps in the analytic hierarchy process are coefficient criteria and the criteria to calculate the coefficient of options, calculation of the final score of logical consistency check options and judgments.

In the first three criteria: location, facilities (with substandard equipment total number of drought, total number of marine equipment, garden area, covered storage area) and function (with the following criteria, the movement of thousands of vessels, number of incoming ships, the total export of non-oil, non-oil imports) are considered to evaluate options (Noshahr ports, Anzali, Amirabad). Then, to determine the importance of the criteria, the sub-indices are discussed. These criteria and sub-criteria are compared in a qualitative method. This comparison is based on pairwise comparison matrix technique or two by two. A logical way has been conducted to determine the value or weight of the objective criteria and sub criteria.

After formation of the matrix, consistency index of Sati is performed using accepted criteria to test the judgments. In this way, the first row of the matrix as a geometric mean is calculated and then normalized. The coefficient measures the importance of normalizing these numbers, namely the division of the total number are achieved.

To get the important factor, it was carried out in the next step. First, the criteria for pairwise comparison and after the formation of matrix (A, B, C), the following important factors have been calculated for each criterion sub-criteria (location, equipment, performance).

Scoring options are evaluated based on the criteria presented in sub-criteria (10) states. The final score is calculated and the results are evaluated as follows:

- i) Noshahr with a final score 0.5471
- ii) Amirabad with a final score 0.1777
- iii) Anzali with a final score 0.5871

Therefore, as you can see in the Anzali port, the first three of the criteria are compared. Noshahr is also compared with Amirabad (also province) as rated higher in terms of the criteria.

Conclusion

This research examines the identification of relative advantages of northern seaports to specify the most appropriate port from the standpoint of regional development. In a comprehensive investigation of the northern seaports in 3 provinces of Mazandaran, Guilan and Golestan, their efficiencies were considered. The three seaports of Bandar Anzali, Novshahr and Amirabad (Behshahr) were selected among all seaports according to their geographical location and their facilities are compared with other seaports of northern region.

Evaluation of the three sample seaports using the Analytical Hierarchical Process (AHP) indicated that Anzali was chosen as the most appropriate one in development of the northern region of Iran.

Keywords: AHP, development, northern seaports, regional development, relative advantages.

Assessment about the Impacts of Industrial Parks on Life Quality in Nearby Rural Areas (Case Study: Sharif Industrial Park, Abhar City)

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Introduction

Today, industry plays a pivotal role in development of a region, particularly development of poor areas. The important role may be resulted from the fact that production factors in industry sector compared with agriculture sector are more flexible relative to environmental-regional and national circumstances. Therefore, one of the strategies in development of rural settlements is to industrialize them by creation of industrial towns and areas in their vicinity. Presence of non-agricultural activities in the rural areas and income from the activities can facilitate rural development. Industrialization of rural areas with evolution in rural economy is a transformation from a state in which the population mainly involved in agriculture into a state in which the population is involved mainly in non-agriculture as major activity. Therefore, rural industrialization has a vital role in strategies and policies of developing countries.

The research has investigated the influence of industrial towns surrounding the Abhar County on quality of life of the rural residents. From the rural districts of the area, the Humeh with 17 villages has been selected for the examination.

Methodology

This research is performed in a literature and survey method. We have used questionnaire tool for analysis of data. The villages of the rural area of Humeh are categorized in three groups of high populated, med-populated, and low populated. From the groups, the four villages of Nurin, Ghamchabad, Ghorveh, and Hesar Ghajar have been selected as samples. According to Cochran formula, the questionnaires were distributed among the villagers. Up to 304 questionnaires were distributed. Eight indices were designed in the questionnaire. These are employment and income, immigration, construction and housing, agriculture, environment, health, education, and participation. The reliability of the tool was tested by Chronback Alpha (0.926). We have also

used the views of geography and rural planning experts for validity assessment of the tool. The questions were in Likert scale. Finally, we have used one sample T test in SPSS to analyze the data.

Results and Discussion

For quality of life assessment, the integration of all the villages has been assessed in each index and, then, they have been compared separately.

The health index was positive due to better quality of services, better accessibility, and increase in the number of health practitioners in the area. Education index show significant positive effects on the area. Participation index has significant positive influence on the public participation. Employment and income in the villages with industrial towns in their surrounding were improved by increase in income, job creation, diversity of jobs, higher money saving, and expect to better employment condition. The industry in the rural areas increased the incentives for perdurability and residence in the areas, the industrial towns caused decrease in urban-rural migrations, increase in emigration of non-natives to the area, and increase in return of the villagers back to the area. Housing index show positive effects and caused increase in land price, better quality of building materials, and increase in construction projects. The towns had positive influence on decrease in the number of people involved in agriculture, decrease of livestock, and decrease in farmland area. The environment has experienced somewhat negative effect from the towns.

Conclusion

From the indices of quality of life in the villages, Sharifabad industrial town had the most positive influence upon the employment condition in the area. This may be due to attraction of work forces from surrounding rural areas. The improvements in the quality of life indices are mainly resulted from development in infrastructures. The negative effects of the town on the environment are not considerable. The health condition has experienced the least influence from the creation of the industrial town.

Keywords: Abhar County, central village, industrial town, quality of life, rural area.

Analysis of the Causes and Circumstances of Tehran Centralization in the Past Three Decades

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Extended Abstract

Introduction

There is no doubt that centralization of Tehran City is due to the several factors originated from different reasons. The main reason for the concentration of affairs in Tehran is that from 1921a centralized government model was formed in Iran. The main economic and political aim of the government was set to establish the security and making a market in order to integrate into a global market. To achieve these two goals, decision-making authority was focused and targeted decision was issued from the political center of the country. Initially, the amount of duties and public services were low, this systems work well, but their problems are gradually revealed. Focused approach is a large portion of government workers in Tehran and its outcome was political, administrative, and economic centralization and the emergence of an urban concentration. As Tehran is the place of everything, it can easily attract more private and public investments. Tehran emerged centralization is affected by several factors and these factors caused considerable gap between this city and other cities and regions of this country. Political and administrative concentration in Tehran led to recruitment of specialists. This makes the headquarters of all the institutions which control the whole or part of the social and economic affairs of the country to be placed in Tehran. The process of economic focus in Tehran is the process of fund accumulation. Concentration of more dominant forms of economic activities in Tehran was dependent upon the governmental and administrative success of this city relative to the rest of the country. This centralization has some side effects. On the one hand, these problems prevent other areas of the country from achieving the desired development and on the other hand cause major problems in Tehran. Solution of these problems depends greatly on the understanding of the predisposition and the reduction factors of the centralization. To this end, this paper seeks to answer this question that what factors direct Tehran to be centralized and how these factors turned it into a major part of the country.

Methodology

The Research Methodology in view of functional aims and the way of conduction is descriptive - analytical. Thus, the library studies will be used to investigate the formation process of centralization in Iran, with the focus on Tehran and, then, by using discordant index of Morris to investigate none parallel and the space which created between different areas of country as a kind of centralization output. The regions of the country were ranked in terms of development indicators to determine Tehran's position in the country. Finally, statistical yearbook was utilized to understand the centralization and the data were statistically analyzed to determine how Tehran is in this situation.

Results and Discussion

The results of this study show that the main factors that led to Tehran centralization are political, economic, infrastructural reasons, population and workforce. These main factors have made considerable gap between Tehran and other parts of the country. The major cause of centralization is political and administrative focus in Tehran. At the beginning of the century, Tehran was only the political capital but it also became the economic capital quickly. In many countries, particularly those countries whose economy is largely dependent upon the resources possessed by the government, focus and centralization of economic activities and infrastructure has happened in the headquarters of the government, i.e. political capital. This phenomenon has not only increased population in capital but also caused establishment of a wide range of social and cultural activities in it, which fed mainly by governmental budgets.

Conclusion

Tehran has been centralized for about a century ago. During this period, Iran is focused in Tehran in almost all aspects. This centralization began with political reasons and resulted in all-encompassing focus. The focus was continued in such a way that led to more inequality and spatial and sectoral polarization. Tehran also encountered with some problems need to be resolved. To reduce centralization of Tehran and eliminate inequality from which other parts of the country are suffering, it depends on the decentralization of political- administrative power and government decision-making of local and provincial (regional) development management. With the aid of the main way to deal with decentralization (i.e. transfer of the power not just the devolution of it) and following the approach to the reform in the governance structure, Tehran centralization would be decreased and hence this provide the balanced and harmonious development of the country.

Keywords: centralization, decentralization, inequality, Tehran, uneven development.

Understanding the Causes of Agreement or Disagreement of Farmers to participate in Land Consolidation Projects, Case Study: Some Villages of Bukan City

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Introduction

Land consolidation in agricultural sector is one of the most fundamental policies. It is not expected to solve many problems without taking the agricultural mechanization and efficiency in production into account. Therefore, the land consolidation projects are one way to achieve agricultural development and sustainable agricultural development which plays an important role in achieving this. The main problem that this research is seeking to achieve is to answer this question that whether the farmers didn't have tendency for participation or Jihad experts didn't perform projects with appropriate planning. If farmers disagree with performance project, what was the cause of their disagreement?

The purpose of this research is to find the reasons and factors that serve as barriers to participate in land consolidation projects. Finding the reasons make us able to discover the causes of this issue and present the solutions to reduce the factors that negatively affect their tendency to participate in the projects. The sample villages of the city of Boukan as the representatives for the statistical population of the city are Abdullah Tapasy, Gale Rasoul and Mallalar Villages. To explore and to explain the problems the qualitative methods (focus groups, interviews or focus) were used in this study.

Methodology

Focus group interview is the kind of interview with an interaction approach based on interview with individuals on special subjects- provided by researcher- in one free and one controlled space by the researcher. This method is also used as reaching to common mind of individuals. Main sampling on qualitative research is based on criterion sampling. In this study, we also have selected three sample villages (in every village we have one opposite and opponent group with these projects), six groups of total delegation of the villages with criterion-based sampling

that can be generalized to all people of the village (in terms of socio- economic situation, age, and etc.). Each of them was separately in one session group interview. The number of these groups was changeable from seven to ten. On this basis, during these interviews after introduction, the researchers carried interviews to provide three total questions of essence and the rate of awareness of the project. Why you are opponent and opposite with these projects? And what methods and strategies are presented to promote the participation in land consolidation projects specially and other developmental projects generally?

Results and Discussion

The main reason for the disagreement between the opposite groups of the villages were unimportant implementation, quality of program implementation and enforcement without end, the similar quality, the sense of belonging, a high level of distrust, and initiation of an interest in personal property family, lack of awareness due to lack of information, the sense of powerlessness and dissatisfaction.

The main reason for the participants in the interviews were awareness of the benefits of cost reduction and increase in the revenue, soil and water management, giving incentives, increased land values, better control on the monitoring of the ground and etc.

It can be said that the most important effect of land consolidation is increase in the performance, due to reasonable cultivation system. It can also designate farms to other crops by using consolidation planning in the region according to expertise due to implementation of consolidation cultivation method after primary cultivation and harvesting. Hence, it is hopeful to production in agriculture and finally to rural development and self- sufficiency in production. Therefore, more attention of the politicians can be very effective to encourage farmers in traditional land consolidation and intervene among them in the projects.

Conclusion

Given the mentioned results we provide strategies that solved these problems in both micro and macro levels. Some of the strategies are:

1. Awareness of the farmers: in order to increase information and awareness of the farmers, it is required to give more attention to public relation section of relevant organization, promotion and capable promotion by educational and promotional classes, exposing successful methods in other countries even in the region and local media in micro and macro framework planning. Besides, two of these items, variable education of farmers and attraction of the adolescent educated generation in this field can play an effective role.

2. In view of farmers, People distrust to governmental agents and organizations is due to weak performance of government in field of project performance and other duties pertaining to the villager affairs. Thus, it is necessary for trust-building to government for performance of project for more than one time. It has correct evaluation to study farmer life condition in relevant to unemployment situation, employment opportunities and correct planning of lands with farmer participant, having systematic vision, and attention to all aspects of distribution and consolidation of land.

3. Integrative and systematic planning is one of the most important factors to increase people satisfaction and their participation in land consolidation projects. Land consolidation should be putted in total policies of rural development and agriculture as participation action and from context of society. It requires creation of capable environment to provide active participants of all stakeholders. This is conducted in such an integrative and process attitude and the environmental situation that the rural and agricultural development becomes visible.

4. In view of the opponents of land consolidation projects, one of the most important factors in attracting villagers participation in development plants- such as land consolidation- is using of rural trustee in the village. The trustees, for example, are sheriff, the council of village,

mosque trustee, educated persons and etc., because the people have authority among villagers and the rural community as well as they can have important and good role in solving family problems and also the problems pertaining to lands among people and organization. Thus, relevant organizations can start these projects primarily from the lands of these people.

Keywords: Boukan, fragmentation, interview focus groups, land consolidation, rural participation.

The Exploratory Analysis of Spatial Data of Marriage in Rural Areas of Iran

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Extended Abstract

Introduction

Marriage is considered as one of the demographic events that make a direct impact on structure, composition, dynamics, and evolution of population in each country. Pattern and changes in marital status is subject of some disciplines. In Iran, the structure and composition of marriage in space and time is not constant. In the studies of marriage, two indicators are important: persistent and age of marriage especially early marriage. These indicators were increased from 1986 and then declined to 1996. Study about this indicator is important for exploring specifications of population in Iran. Marital status in Iran has spatial variations. Exploring the patterns and spatial behavior of population is mostly important to dynamism of the population and family planning in rural areas of Iran. In this research, we used an exploration of the spatial data analysis. Several theories have been proposed for marital status and the most important is modernization theory. Modernization theory is a description and explanation of the processes of transformation from traditional or underdeveloped societies into modern ones. This process affects marriage patterns. Theories of modernization or development have existed for centuries, according to the evidence from social scientists to explain the causes and effects of social change. These theories, often substituted geographically varying data for historically varying data, attempted to be causally related to various aspects of life, from religion and family to education, labor, and family. Some have suggested that the modernization of families, i.e., older ages at marriage, greater use of contraceptives, smaller numbers of children, causes societies become more modern, e.g., wealthier, more educated. Another theory is based on economic principles. Marriage has many different causes, including a number of children, income inequality, and natural selection of genetic traits over time, allocating time and other resources for families.

Methodology

Exploratory Spatial Data Analysis (ESDA) extends exploratory data analysis to spatial data. The aims of ESDA are descriptive, rather than confirmatory and seek to detect patterns in spatial data to formulate hypotheses are based on or about the geography of the data and to assess the statistical models for spatial data. The techniques that are employed in ESDA are both visual and resistant. Resistant techniques are those where the results are not greatly affected by a small number of unusual or aberrant values. Visual techniques are those employing charts, graphs, figures and in the case of ESDA, crucially, maps. ESDA includes EDA in the sense that spatial data, which comprise attribute values with associated location identifiers, at one level can be explored without reference to where data values occur on a map. As a final quality of ESDA techniques, they usually stay close to the original data in the sense of either working with the original data or only employing simple intuitive transformations of the data. The data model for ESDA draws on the data model for EDA:

$$\text{DATA} = \text{SMOOTH} + \text{ROUGH}$$

The terms "smooth" and "rough" can refer to just the set of attribute values of the dataset. Geographic weight matrix: Each nonnegative matrix $\text{GW}=(\text{GW}_{ij}: i,j=1,\dots,n)$, is a possible spatial weight matrix summarizing spatial relations between n spatial units. Here each spatial weight, GW_{ij} typically reflects the "spatial influence" of unit j on unit i . Following the standard convention, we here exclude "self-influence" by assuming that $=0$ for all $i=1,\dots,n$ (so that W has a zero diagonal). We used KNN method to calculate GW :

$$w_k = \begin{cases} K = 6 & 1/6 = 0.17 \\ K = 15 & 1/15 = 0.067 \\ K = 30 & 1/30 = 0.03 \end{cases}$$

Compute spatial moving average: It is useful to distinguish between the two classes of ESDA statistics, i.e., global or whole map statistics, which process all the cases for one (or more) attributes. Focused or local statistics which process subsets of the data one at a time and which may involve a sweep through the data look for evidence of smooth and rough elements of the mapped data. This study considers local statistics. The spatial moving average is local statistic that uses GW -matrix.

$$\bar{Y}_i = \frac{\sum_{j=1}^n y_j w_{ij}}{\sum_{j=1}^n w_{ij}}$$

Data: data on marriage is recorded in Population and Housing Census. We use marriage data 2006.

Procedure of research:

1. Making base map: in order to model the spatial trends; we used a regular hexagonal grid as basic units. And each cell was given a unique value as identifying code.
2. Aggregate data: rural data aggregate based on hexagonal units. Firstly, it was with spatial join tool in ArcGIS hexagon map and rural map overlaid. Then, key field summarizes rural data, output is attribute data. Attribute data are joined to hexagonal map.
3. Calculate GW -Matrix: with KNN calculation method, GW -matrix data.
4. Calculate Spatial Moving Average: SMA is calculated in MATLAB application.
5. Cartography
6. Data analysis

Results and Discussion

The results of this research show a typical spatial trend in marital pattern in rural areas. In

central parts of Iran marriage indicator is more than peripheral areas. But hexagonal map illustrates details of this trend. Spatial trend has two patterns; a global trend from southwest to center and east southern to center and local trend in more other places in Iran. While with increase in k in KNN, local pattern is dissolved together and make a global trend. To explore the spatial trend, we used the spatial moving average. Space is hierarchal and the calculation of SMA is conducted with different orders (6, 15, 30, 45, and 60). Survey maps are related to the spatial patterns. This shows that in each level we have a specific local pattern that may be different from other levels. Map 6 shows the spatial trend with $k = 6$. It can be seen in the map that no spatial trend can be found. There are several local spatial trends. With increase in k -order, the spatial patterns are varying. Increase in the value of k spatial patterns can be changed and local spots are formed. When the order of K is less than 45, the local trends formed and in K greater than 45 a global trend is found on the map.

Conclusion

Geographical Survey map of Iran with his in rural areas shows that these patterns are not random but follow a certain order or spatial alignment. The maps show spatial patterns of crowds with his wife at the provincial level. The maps also indicate spatial patterns of crowds with his wife at the provincial level that central and northern parts of the country have the highest proportion of married in ten years and more, but in the southern part of the country, the ratio is low.

Keywords: ESDA, geography of marriage, marriage status, spatial statistics, spatial trend.

Site selection for Tourism Development Using Genetic Algorithm and GIS, Case Study: Kavir National Park

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Extended Abstract

Introduction

Economic diversification, raising the indexes of human development, entrepreneurship, interaction of cultures and especially preservation of environment and totally sustainable development are the concerns with which the modern world is faced. Each of the counties in any level of development tries to find the necessary answer to the concerns. In the meantime, those countries that have tended to economic diversity and want to release their economies from single-product economy are seeking to understand or to create advantages. The importance of this issue in arid and desert ecosystems due to the sensitive and fragile environmental resources is doubled so that the awareness about the environmental characteristics of these areas is a prerequisite for the development. One of the components is tourism and ecotourism. As the spatial model of tourism in the nature, tourism with an ecotourism approach is highly important. This spatial model encompasses the approach of tourists to natural environment with different motivations that a visitor has by travelling to natural environment or nature. However, as a broad, huge and capable activity, desert ecotourism should be organized in the manner that while achieving the intended goals, it can support environmental and cultural resources as well as sustain valuable human heritage of these zones. Therefore, not only the efforts should be made towards removing organizational and administrative impediments of ecotourism, but one should step into new stages such as fundamental planning for the zones and their positioning. In the study and identification of potential tourism and planning in this regard, the ability to become an eco-tourism area is fantastic. Tourism potential and the ability to manipulate the region and especially the use of natural ability to maintain stability characteristics can further develop this area. Thus, this is required to conduct an extensive research in the field of tourism in national parks desert. Kavir National Park of Iran is one of the largest national parks of the

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country. It is located in Semnan, Ghom, Tehran and Esfahan. As a broad area of Iranian territory that enjoys tourism attractions such as sports, historical and scientific sites as well as good diversity of plants and animals, the region is compatible with environment and special geomorphologic effects. Kavir national park is one of the rare places in entire Iran and it is capable to become an extraordinary zone in case of study and identification of its tourism capabilities and planning.

Methodology

In this research, the data collected from the studied area could not be used to calculate the weights based on data-based knowledge. Major reason for this is lack of scientific ecotourism positioning. Therefore, the effective criteria were first identified by Delphi technique and the weights of criteria were extracted by using Analytical Hierarchical Process (AHP). After identification and preparation of all criteria and effective factors for the site selection, it would be necessary to prepare factor maps of each of the layers. Preparation of each of the criteria was conducted in the form of raster layers in GIS environment (ArcGIS). After completion of work in this stage, the zone was restudied in view of optimal places by genetic algorithm method for the purpose of accuracy of the positioning on the obtained optimal places.

Results and Discussion

Main criteria of the research are four groups of infrastructures, attraction, facilities, and natural factors. Each of these criteria is divided into sub-elements. The criterion of attractions encompasses index characteristics such as biodiversity (animal life, special plant species), desert attractions, water attractions and historical-cultural attractions. Infrastructures contain communication roads (earth road, asphalted road, and highway), human settlements (village, city), residential infrastructures, utility infrastructure (electricity, gas), and access to water resources (sweet water spring and refined water). The index of facilities contains security and number of tourists. Finally, natural factors are topography (direction gradient-height), geology, plant coverage, land use and climate. Then, in order to develop hierarchical structure, Expert Choice software was used for pairwise comparisons and preparation of evaluation matrix. After preparation of the classified layers, in order to prepare the final map, the layers should be combined with each other and the final coefficient obtained by AHP should be applied to them. These processes were made through Raster calculator tool in ArcGIS. Ultimately, the final map of the places capable of ecotourism was obtained.

Conclusion

Research results indicate that tourism development model is extended in the center and northwest parts of the region. It is recommended that the development of fundamental infrastructures of the complex is limited so that it can avoid the loss in the quality of its ecological resources. The areas around the central zone in the west and east are in the second priority of tourism activities development. Some parts of this zone have formed the spinal column of the zone with access to the north-south road. They have contained in themselves villages and large and important settlements of the zone. The importance of this zone is mainly due to centralization of infrastructures of services such as transportation, residential and entertainment services. This is in the manner that they show a centralized tourism with an emphasis on cultural tourism. The limits of the protected zone in the north suburb of Kavir national park is one of the environmental reserves of the zone. The east and south parts of the zone are in the third degree of importance for development of tourism activities in view of tourism development. The zones with warm and dry climate, lands with scattered desert attractions are also specified. Finally, the fifth area has no facility for ecotourism development and may be used as the entrance gate to Dasht-e Kavir for the extensive tourism development.

In the final section, genetic algorithm was used to find the optimum zone. This zone is located inside a very suitable area. This confirms the accuracy of research and assurance of finding the correct optimal areas by the model.

Keywords: Analytical Hierarchical Process (AHP), ecotourism, genetic algorithm, GIS, Kavir National Park, optimum zones, site selection.

Assessment of the Impacts of Constructing Tehran-North Highway on the Rural Areas of Kan- Souleghan

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Extended Abstract

Introduction

One of the most important requirements of different countries to achieve development is use of transportation methods for movement of goods and services in less time and with greater safety. Construction and exploitation of roads in countries including Iran can cause many problems if they do not pay enough attention to environmental issues. The results of these issues will affect sustainable development. Construction of Tehran- North Freeway is one of the ongoing projects that can have various environmental impacts on Kan Souleghan District. Questions which are raised in this study are on the base of two main areas as follow:

What are the impacts of Tehran - North Highway construction on the Kan- souleghan rural area?

To reduce the negative effects of the Tehran-North highway on the villages, which strategies can be used to reform and rehabilitate the highway projects?

Methodology

This study is going to explore the effects of road construction on the environment from different aspects. It emphasizes on the natural environment of rural areas, such as Kan-Souleghan district. In this paper, the domination of economic benefits in this area beside other natural environment aspects in rural areas is also going to be discussed.

This research has been conducted on the basis of survey approach with applied method. The data has been collected from local community and the expert teams are involving in the road construction. We also got the advantages of using documents addition to field works. Meanwhile observation was a main tool for assessment of the environmental erosion. Understanding a diversity of standpoints often exist with regard to the effects of development

projects, an effort was made to capture input from a broad range of places and groups. The groups are villagers of varied ages and both genders, and with different occupations, concerning attitudes towards highway construction. In addition, many informal interviews and discussions were held with the residents concerning their feelings about women participation and their status in family and society. In addition, on-site observations were conducted about the people attitudes towards highway development project.

The research has been analyzed on Iranian matrix method, using (Leopold changed model by Makhdoom, 1997). This study conducted many steps as follow:

1. The project was split into components (small and micro-environmental action). It means that the activities may affect the environment in the planning and construction of the highway was determined.

2. Secondly, the relationship between environmental factors and small activities in positive and negative effects were evaluated. The numbers between -5 to +5 Matrix were used to quantify the matrix, which is a combination of a I. Cold and Leopold method.

3. Following the assessment, to determine the effectiveness of the activities and outcomes, number of rows and columns that shows a negative or positive effect, is evaluated separately. Then, the sum of these values is calculated for each row and column counted separately.

- 4- In the final stage, it will be discovered that whether highway construction activity in general has a positive or negative impact on the rural area, and how these activities should be compatible with the rural environment.

Results and Discussion

As research findings showed, more effects and consequences of the construction of Tehran-North Freeway has negative effects on the environment and also on rural natural resources. For this reason, the final evaluation showed that Project of Tehran- North Freeway is executable only with reforms to improve the construction process and create improvement plans and operational guidelines for the adoption process. In fact, it should be mentioned that construction of Tehran- North Freeway not only has potentially the negative effects but it can facilitate the economic and social development of rural communities.

It is therefore essential to reduce the negative effects primarily and secondly to use this potential to benefit rural economic and social development. Thus, in order to improve the benefits of the project and reduce the negative effects of it, the guidelines and recommendations are raised from this research as following:

The most important step in the construction of highway is to train the construction team that do the activities such as operating in the field of drilling and other construction efforts. One of the ways of the highway construction process is to improve the method of construction during or before the construction by legislation about protection of rural environment and natural resources. As it is mentioned above, despite the negative effects of highway, it can have the positive effects both on the economy and culture of the villages, as well. To achieve this goal requires greater participation of rural people in the process of the construction of the highway. In general, to achieve these goals three types of actions in this area is required: protective measures (water and soil); the restoration and rehabilitation (effective use, increase in the knowledge and skills of human resources); the measures to increase efficiency (development of natural resources).

Conclusion

The results of the research shows that although this project has useful effects in reduction of depreciation of vehicles, saving in time drivers, increase in the national income and reduction of traffic, reduction of fuel consumption, and reduction of accidents causes more safety rather than other roads, it has destructive effects upon the biological, geographical, physical environment

and tourism condition of Souleghan District. The results of the model also indicate that this project could be performed by reformation and sanitation. Thus, it has the ability to run different options for reforming and improving the project conditions.

Keywords: environmental impact assessment, Iran, Kan-Souleghan, rural development, Tehran-North Freeway Project.