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Application of Ecological Assessment in Aesthetic design of Natural Urban LandscapesStudy Area (Khoshk River, Shiraz, Iran)

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Abstract

The main goal of the present study is to integrate the ecological assessment and remote sensing techniques to evaluate landscape structural elements of Khoshk River. Furthermore, aesthetic design strategies for the natural urban landscapes that lead to improving environmental quality are presented by different flowcharts. In this regard, natural and artificial patterns and flows of marginal area of the Khoshk River are recognized through analyzing aerial photos at the landscape-mosaic scale. Along with the qualitative analyses, the quantitative analyses by using remote sensing technique are carried out for determination of vegetation density, surficial water, and topography. The vegetation density and the surficial water are assessed using Normalized Difference Vegetation Index (NDVI) and Normalized Difference Water Index (NDWI), respectively. Moreover, the topography of the studied area is investigated using Digital Elevation Models (DEMs). Landscape fragmentation caused by public transportation and urban development is analyzed during the time period of 2003-2018 for the site of interest. The aesthetic strategies presented in this research emphasize on improving the visual quality and pattern configuration, conserving the biodiversity, and increasing public awareness of ecological values.

Introduction

The more cities develop the more natural urban landscapes damage. In this regard, decreasing the ecological quality of the natural urban landscapes results in declining citizens' quality life. Hence, such landscapes are well

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recognized as important resources not only for supporting natural ecosystem and habitats but also for improvement of the aesthetic visual perception. As one of the well-established methods for landscape evaluation, landscape ecological assessment (LEA) was developed to enhance urban planning by considering the ecological landscape characteristics along with the human aesthetic preferences. It is worthy to be noted that the goal of landscape ecological assessment is to understand landscape patterns and functions as they naturally occurred and investigate the rate of landscape fragmentation during the time. The purpose of the present study is developed to evaluate structural elements of Khosk river landscape by remote sensing technique. Moreover, this research was carried out in the context of ecological assessment at landscape-scale in the course of 15 years.

Methodology

The studied area is Khosk River located at Shiraz city in the south-west of Iran. Moreover, Khosk River is recognized as seasonal river, which is approximately 60 km and drawn in the direction of northwest to southeast. This river passes through Shiraz city and ends to Maharlou Lake. Several bridges such as Maali-aabad, Zargari, Bagh-e-Safa, Namazi, Ali-ibn hamzeh and Pirnia have been constructed in order to link two side of river over the time. In addition, public transportation, highways, recreational functions such as restaurants, cafes, sport land, and hospitals have been developed in surrounding the natural limit of the river within recent decades.

The aesthetic design strategies for the natural urban landscapes that lead to improving environmental quality are employed through different flowcharts. In this regard, natural and artificial patterns and flows of marginal area of the Khoshk River are recognized by analyzing aerial photos at the landscape-mosaic scale. Along with the qualitative analyses, the quantitative analyses by using remote sensing technique are conducted for determination of vegetation density, surficial water, and topography. The vegetation density and the surficial water are assessed using Normalized Difference Vegetation Index (NDVI) and Normalized Difference Water Index (NDWI), respectively. Moreover, the topography of the studied area is investigated using Digital Elevation Models (DEMs). Landscape fragmentation caused by public transportation and urban development is analyzed during the period of 2003-2018 for the site of interest

Conclusion

The aesthetic strategies presented in this research emphasize on improving the visual quality and pattern configuration, conserving the biodiversity, and increasing public awareness of ecological values. In the case of Khoshk River, the authors highlight the need to plant indigenous species in order to create new patches that cover the gaps between fragmented patches and restore damaged land. It is requisite to restore landscape heterogeneity and function as well as to conserve the natural corridors. It is worthy to be

mentioned that such natural corridors, which connect patches, would be employed to maintain both the animal and vegetation habitats and to ameliorate the current situation of the damaged patches. Based on the finding obtained in this research the above-mentioned suggested strategies can improve aesthetic visual quality of Khoshk River landscape.

Key world: Ecological Assessment, Natural Urban Landscape, Aesthetic Design, Khoshk River.

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Supervision and prediction of physical expansion changes and floor area ratio developed in Sari city using Landsat satellite images and CA-Markov model

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Abstract

In this study, using Landsat satellite images, physical and density made changes in the city of Sari were evaluated simultaneously in four periods of 10 years from 1988 to 2018. Maximum Likelihood Classification and Normalized spectral mixture analysis (NSMA) algorithms were used to extract physical and density made information from satellite imagery, respectively. The results showed that the area of the city of Sari increased from 1726 hectares in 1988 to 3071 hectares in 2018, with the largest expansion in the east, south and southwest. density made has also risen from 49% in 1988 to 56% in 2018, with the highest increase in the northeast (12%), south (12%), and west (10%) respectively. In addition, physical expansion and density made were simulated in 2028. The results of the prediction model show increase the 1716-hectare urban area of Sari focusing on the southwest and east directions in 2028. Furthermore, it is expected the increase in the average density made from 56 percent to 63 percent the most in the north, east and southwest directions along the main roads of the city.

Introduction

Urban expansion is one of the major challenges on the way to the sustainable usage of land (Hennig et al, 2015: 483). This phenomenon has caused major economic, social and climate problems and environmental pollutions such as

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income separation and increased inequality (Guo et al, 2017: 1), increased demand and energy and water consumption (Navamuel et al., 2018: 3471; Morote & Hernández , 2016: 351), increase in air temperature and expansion of urban thermal island (Kohler et al., 2017: 93), increase in air pollution parameters and reduction of air quality (Smith et al., 2016: 1008), increased unhappiness and mental and physical illnesses (Ewing et al, 2014: 118; Garrido-Cumbrera et al, 2018: 381) and many additional problems and threats to other people so that due to increased awareness of these threats in recent years, an urgent need to monitor the expansion of cities and to implement the efficient policies by urban planners and managers is on the agenda.

Over the past years, earth change science has emerged as an essential component of environmental changes and sustainable development, and earth changes' modeling has been recognized as a fundamental research in earth change science (Liu & Yang, 2015: 3). In this research, we have tried to evaluate the physical changes and floor area ratio developed in Sari city simultaneously in four 10-year periods from 1988 to 2018 and to predict the future developments as well using satellite images and techniques for extraction of base pixel and sub-pixel information, as well as using the CA-Markov hybrid model and lateral dependent variables.

Materials and methods

The main data used in this study include the time series of Landsat images from (TM and OLI) sensors that is prepared by the U.S.'s Geological Survey (USGS) in four 10-year periods. At first, radiometric and atmospheric corrections were applied on the images and the pixels' value was reflected to the earth surface. The Maximum Likelihood Classification Algorithm was used to categorize the images into two constructed and non-constructed categories. The NSMA method is similar to the SMA spectral mixture analysis one, with the difference that in the NSMA method, the Landsat images bands get normalized to coordinate the spectrum of earth surface' features like the buildings (Wu, 2004: 487). In the NSMA method, first, the average of all bands would be calculated, and then, individual bands should be divided by average to reduce the brightness difference in the spectra of a given material.

Discussion and Results

One of the most obvious results of this research was to evaluate these changes in different geographical directions in addition to major physical changes and floor area ratio developed. The performance of different directions in a city may vary due to a variety of natural and human conditions. Therefore, a single city may have a different function in terms of physical expansion and

floor area ratio developed in different periods in different directions, and ultimately, special directions may have more spread than the other ones. The results of this study in Sari city showed that the physical expansion of the city has mostly been made in the east, south, southwest and partly north directions, and the predictions indicate the city expansion in these directions. These extensions are mostly made towards the main connection routes of Sari city. The floor area ratio changes made in Sari city are slightly different from the physical expansion, so that the northeast, south, and west directions indicate an increasing floor area ratio developed, and future projections is indicative of an increase in the floor area ratio made in the north, east, and southwest. The reason behind this is that the expansion of the city initially causes a reduction in the floor area ratio made because at first the locations that are built have a low floor area ratio, but over the time, and after these areas are out of outskirts, their floor area ratio will also be increased, too.

Conclusions

Usage/land vegetation maps and floor area ratio made during the studied period were extracted from satellite imagery. The area of the regions constructed in the studied period has reached 3,071 hectares in 2018 from 1,726 hectares in 1998 that shows an increase of about 1,345 hectares in terms of area. The floor area ratio made has also reached from 49 percent in 1988 to 56 percent in 2018. One of the innovations of this research is the simultaneous use of base pixel and sub-pixel techniques for extraction of physical expansion and floor area ratio made in Sari and the use of both results in LCM models to investigate the changes and to predict the changes.

Keywords: Physical expansion, Density made, Satellite images, Markov chain, Sari city

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Sprawl of Babol city and structural-functional changes of the surrounding areas (A case studyof Siakalamahaleh)

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Abstract
Sprawl is being considered as one form of physical expansion which introduced into the literature of urban planning and management of Iran in the last decades. Some of the Iranian cities experienced this type of expansion during their accelerated growth period. These cities have been dealing with many problems including unplanned planning development, creation of informal settlement, great fluctuation regarding land and housing prices, increase in costs of infrastructures as well as urban services, converting agricultural lands into urban uses, high rate of energy consumption and its pollution consequences. This study aims to investigate Babol city expansion between1957-2017 and its role on structural–functional changes in the village of Siahkolamahallah. This study suggests that Babol's area has been continuously increasing during the study period and changed the structural-functional features of the village of Siahkolamallah.

Introduction
It is argued that undeveloped and developed countries are experiencing different metropolitan growth consequences. In industrial countries spillover population are trying to move away from overcrowded metropolitan center to more secure and decent neighborhoods. At the same time, some economic activities due to their spatial and locational limitations are moving toward peripheries. Therefore, within the industrial metropolitans, migration acts in a reverse manner, that is population are moving toward rural peripheries. However, in undeveloped countries, spatial non-continuity and overall centralization have led to in balanced metropolitan growth and expansion which in turn resulted in social, economic, physical and spatial disorders and irregularities. This would paved the way for rural annexation as well as spatial disorders and metamorphism (saeadi & sabet, 2011:149).

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Materials and Methods

Statistical society corresponds to Babol city and Siahkolamahallah between 1956-2016 time periods. Needed information were obtained via field works and documentary procedure. Holdren quantitative model was applied for computation of degree of sprawl. Holdren applied this model in order to determine urban horizontal expansion rate as well as population growth in 1991. Using this model, one could determine degree and rate of urban growth due to population growth as opposed to sprawl. Holdren used per capita gross land via 14 equations (Hekmatnia & Mousavi, 2006:131-133). In addition, Geography information system was applied in order to draw maps and to analyze rate, direction, and form of sprawl in Babol. Babol's expansion pattern and its spatial variations were investigated by using social, economic, political and physical criterion as well as application of 15 indicators.

Discussion and Results

The share and role of population and sprawl with regard to increase in Babol's area during these time period was different. In general, based on Holdren model computation, 74% of the increase in the area was associated with population growth as opposed to 26 percent resulted from sprawl. This, in turn resulted in decrease in gross population density and increase in gross per capita of urban land use and horizontal expansion and intrusion. Babol's area continuously experienced some increases between1956-2016. Its area showed 11 folds increase. It reaches from 269 acres in 1956 to 3036 acres in 2016. This situation is predominately associated with intrusion over rural areas and rural annexation. Location wise, these are located in the vicinity of the main inter-urban arteries, therefore they are well exposed to annexation process. These villages are considered as part of some neighborhoods while preserving their rural physical characteristics.

Conclusions

Distribution of the city of Babol by the expansion of the city on the periphery of the land, including agricultural lands and pastures, the integration of villages and lands surrounding them, creating residential and institutional settlements in the periphery, economic, social, political and physical changes of villages, etc. and The creation of informal settlements, such as the Imam Khomeini, Western Kathi, Oriental and Gohardasht settlements, has taken place. The construction of the residential towns and public housing around Babol and population movement from central parts into peripheries along with lack of physical barriers all contributed to sprawl development. In addition, Babol's expansion was taken place along northern and southern axis including Babol-Babolsar in north and Babol-Babolkenar and Band pay in southern direction. Furthermore, part of the city expansion followed eastern-western direction. As such, most of the annexed villages (Including the Siahkolamahalleh) were located along those mentioned arteries and roads.

Keywords: Urban sprawl, Spatial changes, Babol, periphery villages, Siakolamahaleh

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Climate design and optimized orientation of buildings (A case study of Qaemshahr city)

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Abstract
Paying attention to the ways for reduce consumption is necessary due to pollution caused by fossil fuels and its consequences. Climate design is one of the solutions used by natural resources to supply the energy needed for the building and it will reduce the need for fossil fuels. The angles that the buildings have toward the north-south axis, they make a difference in the amount of energy received. The following results were obtained after examining the amount of energy for five samples studied. Nassaji Town (3.48 degrees' deviation to the north east-south west) has the most suitable buildings in terms of orientation and optimal energy reception, After that, The old part of Koochaksara, Nikan Town, Farhangshahr Town and finally the second part of Nassaji Town (39.17 degrees' deviation to the north west-south east). In general, according to the results of this research, it is about five degrees of deviation from the south toward east and west are an ideal direction for building construction and the direction of the building in the city of Qaemshahr. This orientation is considered as a suitable direction because it receives maximum energy during the cold month of the year and conversed, it receives at least the energy during the warm months of the year.

Introduction
Building is known one of the most important and essential human needs. It protects human against severe climatic conditions. The impact of climatic factors in creating residential places were one of the topics that it has been of

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human interest. From the very beginning and human have always been looking for favorable residential places in accordance with the climatic conditions. Over time, attention to climatic factors had been decreased in creating building. That topic has led to increaced energy consumption and environmental pollution, as well as rising household costs, also, observing the climatic principles will reduce the outcome and consequences of it. This principle called climate architecture, It means that it follows the natural condition of the building, in order to achieve comfort. The construction of building that is compatible with environmental conditions will reduces fossil fuels consumption and pollution, there fore, it makes the optimal use of clean energies like the sun to provide the energy needed for the builging. The geographic location of iran has led to the formation of quite different climatic conditions in different part of the country. Therefor, it is necessary to study the human-made environments for each of the climatic zones.

Materials and Methods

In order to study optimal bioclimatic conditions in the city of Qaemshahr, the statistics were collected relate to the climatic data of the Qaemshahr synoptic station, That includs minimum and maximum temperature data, relative humidity and dry temperature during the statistical period of 1984-2005. Thus, with using of effective temperature index, comfort threshold and thermal requirement of the building were determined in different month, Then, the cosine computing method is used to determine and select the best direction for the construction of the building in order to obtain optimal solar radiation energy. Also, the amount of radiation energy was calculated on vertical surfaces in different directions of the wall. Finally, the buildings under study were drawn up to Google Earth.

Discussion and Results

As a result of the change in the earth motion relative to the sun, the radiation angle is different in thr seasons of the year. This causes a difference in the amount of solar energy received throughout the year. Therefore, the amount of energy received is different at levels that have diverse angles relative to the suns rays. For this reason, determining the proper direction in building is very important in order to obtain the maximum energy in the cold seasons and also, The minimum energy in the warm seasons. In the cold weather of the year, receiving energy from the orientation priorities of the building, Then, the south of building receives the highest of energy in the warm season that we need to provide the shadow for comfort. The difference in energy intake was investigated for five case stuies in Qaemshahr city, That the Nassaji Town (3.48 degrees' deviation to the north east-south west) was expressed as the most appropriate direction.

Conclusion

Paying attention to the ways for reduce consumption is necessary due to pollution caused by fossil fueis and its consequences. Climate design is one of the solutions used by natural resources to supply the energy needed for the building and it will reduce the need for fossil fuels. The angles that the buildings have toward the north-south axis, they make a difference in the amount of energy received. The following resuits were obtained after examining the amount of energy for five samples studied. Nassaji Town (3.48 degrees' deviation to the north east-south west) has the most suitable buildings in terms of orientation and optimal energy reception, After that, The old part of Koochaksara, Nikan Town, Farhangshahr Town and finally the second part of Nassaji Town (39.17 degrees' deviation to the north weast-south east). In general, according to the resuits of this research, it is about five degrees of deviation from the south toward east and west are an ideal direction for building construction and the direction of the building in the city of Qaemshahr. This orientation is considered as a suitable direction because it receives maximum energy during the cold month of the year and conversel, it receives at least the energy during the warm months of the year.

Keywords: cosine method, direction of building, Qaemshahr city, solar energy

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Recognition of the Cemetery locating and development principles from the past to the present (Case Study: Takhte Follad and Baghe Rezvan Cemetery)

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Abstract

The cemetery commemorates the current and the after-death life as one of the principles of the religion of Islam and is one of the most important manifestations of the culture and beliefs of the people. Iran's cemeteries in the Islamic era have identities and concepts different from those they do today and have been considered as a place for pilgrimage and recreation; The fact is being neglected in the design of today's cemeteries and replaced with typical designs. This research with a qualitative research approach and an analytical-comparative research method and field research with library studies is aimed at identifying the needs and the reasons for site selection and construction of the cemeteries. The results indicate the cemetery as an indigenous urban space, a place for social interactions, manifestation of belonging to survivors, cultural identity, and the readability of urban spaces in the past. For example, the cemetery of the Takhte Follad of Isfahan has been considered as one of the most valuable cemeteries in the world of Shiism. This research examines to revive the past cemeteries concept with the comparison of the Baghe Rezvan cemetery, which was built outside the city and the Takhte Follad cemetery which is been gradually destructing.

Introduction

Cemetery is a place that reminds the life after death as one of the principles of the Islam, and is one of the most important beliefs between people. Iranian cemeteries, in the Islamic era, had different identities and concepts with what

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is happening today and is considered as a place for pilgrimage and recreation. The thing that has been overlooked in the design of today's cemeteries is replaced by equal designs. Resurrection as one of the principles of the Islam, emphasizes important recommendations about death, graves, cemeteries and pilgrimages of the graves in the Quran, the hadiths of the Prophet (Mohammad) and the Shia Imams. What has been the subject of the contemporary era, with the location of the ceremonies outside the urban area causing physical separation and difficult access for Muslims, and undermined the qualities of remembrance, tranquility, and beauty of urban landscapes. Today, in most cities of Iran, cemeteries have become open spaces on large and outlying cities, while it seems that urban space with cemetery function has many capacity and potentials in terms of cultural and social aspects.
The" Takhte Follad cemetery" of Isfahan is also part of this city, which has a long history and can become a dynamic and stimulating member of the city structure. Therefore, the main issue of the present study is to criticize the rules and criteria for locating of cemeteries in the contemporary urban planning and without paying attention to the principles of locating cemeteries in contemporary urbanism, which is recognizable in comparison with the old cemeteries.

Materials and Methods

The present study deals with qualitative research approach and analytical-comparative research methodology and field research with library studies to identify the necessities of locating and constructing cemeteries. This research is aimed at "analyzing the necessary criterions for choosing locating, planning, designing and construction of cemeteries", which is carried out with a qualitative research approach. The research method used in this research is descriptive methods, analytical, comparative and case studies that are carried out in thematic areas of the field, with the use of documentary library studies and field impressions. In this regard, the most important research question is, "What are the architectural and urban considerations of the construction of cemeteries with an emphasis on Iranian-Islamic values

The present study has been developed using a qualitative approach, using a descriptive-analytical research method and a comparative comparison method between old and contemporary samples. In the present study, the word cemetery was first presented in various dictionaries and sources, and then, using Delphi technique, we compiled the effective factors and evaluation criteria in locating the cemeteries.
In this method, a questionnaire was developed and distributed among 35 experts of this field. The results of the questionnaire are summarized and presented in the form of factors influencing of choosing the location of urban cemeteries. Subsequently, the explained and clarified factors by the experts are more fully and distinctly examined and the criteria for evaluation and

impact on each axis are presented; and finally, the framework of the research has been developed.
In the second part of the research, case studies (including the Takhte Follad Cemetery and the Baghe Rezvan in Isfahan) were introduced and the research framework in the samples was tested and evaluated. According to the research framework, a second questionnaire was developed and distributed among the clients of both spaces to compare the comparative comparison of these two cases. The statistical population in each space was 50 people. This questionnaire was distributed among 100 of the clients in both spaces. Finally, by summarizing the research findings, suggestions and guidelines for planning and designing cemeteries with emphasis on choosing location considerations are presented.

Discussion and Results

In this part of the present research, the research framework has been investigated in case studies including the "Tahkte Follad" and "Baghe Rezvan" cemeteries of Isfahan. "Tahkte Follad" cemetery is a historical and ancient collection within the city of Isfahan, which deals with the dynamic system of the city and The Baghe Rezvan cemetery is located outside the city of Isfahan and is merely a functional space for the burial of corpses. The link between this "Tahkte Follad" cemetery and other urban texture has created a sense of belonging in the people, and the desire of the people to attend the ceremonies in this space is greater, but the Baghe Rezvan cemetery unfortunately is empty of such senses. According to the research framework, a questionnaire was developed and distributed among the clients of both spaces and compared to the two spaces. The research findings are presented in Table ۹. In this table, the components and criteria of the research framework have been put and the results of the questionnaires are summarized in this table. Finally, a comparative study has been carried out based on the research framework between two case studies. From the results of this study, it appears that the cemetery, as a native urban space, has been used extensively for social interactions, manifestation of survivors' affiliation, cultural identity, and legibility of urban spaces in the past, and is an inseparable part of the city's structure.

Conclusions

The results of this study suggest that the cemetery was used as a native urban space for social interactions, manifestation of belonging to survivors, cultural identity, and the readability of urban spaces in the past. For example, the "Tahkte Follad" cemetery of Esfahan has been considered as one of the most valuable cemeteries in the Shia world. This research is carried out with comparative comparisons between Baghe Rezvan cemetery, which was built outside the city, and "Takhte Follad" which is in gradually destroying state to reconstruct the living concept of the previous cemeteries.

Keywords: Cemetery, Cultural Landscape, Locating, Takhte Follad Cemetery, Baghe Rezvan Cemetery.

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An application of Meta –SWOT tool for comparative analysis of Biophilic cities strategies with focus on climate changes

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Abstract

In recent years, rising the environmental crisis due to urban physical growth toward surrounding natural areas, has increased the necessity of attending urban environment. Using new urban views based on the environment can response to physical needs and lead to nature protection, biodiversity and increasing the quality of environment in the city and finally response to problems of climate changes. In this regard, one of the new ideas is Biophilic Urbanism. So the aim of this study is presenting an analytical model on assessing the properties of the biophilic city in five cities; Singapore, Portland, Brisbane, Perth and Berlin in response to climate changes.

Introduction

The physical growth of the cities has had environmental destroying consequences. Numeral constructions without regulations, density and lack of notice to the environment have caused shaping of inappropriate physical form and fabric with the nature and destroying the biodiversity. On the other hand, the distruction of urban nature leads to the crisis such as climate changes.

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In respond to these issues, new approaches such as biophilic urbanism have been presented in urban environment. Since the investigation of successful experiments is an important action in reaching to biophilic objectives in Iranian cities, in this study beside investigating the characteristics of biophilic cities, five cities of Singapore, Portland, Berlin, Brisbane and Perth are compared to each other and the biophilic strategies in respond to climate changes are prioritized.

Materials and Methods

The methods of this study are descriptive (based on the documental studies) and analytical (by using Meta –SWOT technique), with quantitative and qualitative approaches.

Discussion and Results

The analysis results show that the biophilic strategic actions in the city of Singapore are the best among the others. Also, every three objectives of the biophilic city have top importance and in reaching to an biophilic city and in response to effects of climate changes, explaining the strategies in two capabalities of forest parks and urban agriculture are the priorities (internal factors). Giving priority to environmental development rather than physical one, is the most important environmental factor (external) in reaching to the biophilic city objectives.

Conclusions

The contact to the nature and integrating of that with urban planning and designing have come up in the shape of a new theory as biophilic urbanism that beside protecting of nature, responds to the environmental challenges of the city. On the other hand, climate change is one of the most important environmental challenges in current century that is mostly based on human activities. In this regard, environmental approaches such as biophilic urbanism can respond to it. The green cities such as Singapore, Portland, Berlin, Brisbane and Perth have respond to these challenges by using biophilic abilities. With comparison of biophilic achievments of these cities as successful global experiments, some strategies for mitigating the effects of climate change can be presented in Iranian cities (with regard to vernacular conditions) that the most important of them are forest parks and urban agriculture improvements and prioritizing the environmental aspects in urban development.

Keywords: Strategy, Urban Environment, Biophilic City, Climate changes, Meta-SWOT

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Evaluation of social capital in the process of urban regeneration in the problematic urban (A case study of Rasht)

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Abstract

Urban regeneration is one of the infill development approaches. If the principles of sustainable development are run, after implementation, it will have a very influential role in promoting various dimensions of social, economic, cultural and ... of cities. Urban regeneration in Rasht is considered as the largest urban plan in the post-revolution years. According to the sensitivity and especially the high social, economic, physical costs of the study studies, they cannot be considered as a physical change in the city, hence the study of social capital in the process of urban regeneration in Rasht is considered to be the main goal of this study. For the purpose، descriptive-analytical method has been used. The require information has been obtained using library and field studies in three areas including inefficient areas، historical areas and informal settlements. The statistical population of the study consisted of 90084 inhabitants of the study area. To extract the sample population، Cochran method was used (95% confidence level، p and q = 0.5). According to the research objectives، a Likert scale questionnaire was designed and used. The sample population is 382 people. For data analysis، one-sample t-test and Kruskal-Wallis test were used. The results indicate that social capital is identified as an indicator of increased interactions between citizens، participation and awareness، but it has been undesirable in terms of creating a sense of trust among citizens. Other important conclusion of the

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present studies a significant difference in social capital in three areas and studied neighborhoods.

Introduction

Social capital is one of the new concepts that nowadays, has been raised in the economic and social studies and is identified as a type of capital, both at the level of management of countries and management of organization and establishments, which can establish new insights of economic-social systems and help administrators manage the system in a better way (Mujibi & Nabavi, 2014: 32). Consequently, community members are able to work together by keeping in touch with each other and making them stable and in this way they will obtain something which cannot be obtained lonely (Ghafari & Ramezani, 2009: 7). Since urban regeneration is one of the most important approaches affecting urban structure, explaining its relationship with social capital and its effects on downgrade or promote social capital is considered to be of importance. As a result, one type of recreational analysis is being performed in its social dimension. Social regeneration is a social process in order to manage social development. In the present study the effect of urban recreation on social capital in three fields of inefficient areas, historical areas and informal settlements of Rasht have been investigated.

Methodology

The present study is an analytic-descriptive survey whose results are considered to be practicable. The required, information has obtained using library and field studies in three areas including inefficient fabrics, historical fabrics and informal settlements. The statistical population of the study consisted of 90084 inhabitants of the study area. To extract the sample population, Cochran method was used (95% confidence level, p and q = 0.5). According to the research objectives, a Likert scale questionnaire was designed and used. The sample population is 382 people. For data analysis, one-sample t-test and Kruskal-Wallis test were used. Then, the study of status quo using SPSS software and ArcGIS was tested.

Results and discussion

The results reveal that social capital is considered to be an indicator of increased interactions between citizens, participation and awareness, but it has been undesirable in terms of creating a sense of trust among citizens.
Other important results in this research are the significant difference in social capital in three areas and studied neighborhoods.

Conclusion

The conclusion indicates that, despite some problems, urban regeneration has been able to play an effective role in increasing interactions between citizens, which is a consequence of the creation of face to face spaces in the process of urban regeneration in Rasht. Moreover, in this process citizen participation

and awareness indicators have also been upgraded to a desirable level. Despite of the increase in the above three indicators, urban regeneration has not helped to create a sense of trust between citizens. Reasons of these can be rooted in other indicators such as the existence of many problems in regeneration projects, poor notification, lack of citizen`s participation and managers not to be enthusiastic in public awareness. One of the other important conclusions of the study is a significant difference in the social capital in three areas and studied neighborhoods.

Key words: Social Capital, Urban Regeneration, Urban Problematic Fabric, Rasht.

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