An Analysis of Individual Resilience of Informal Settlement Residents against Environmental Hazard (Case study: Urmia City)

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Extended abstract

Introduction

The cities in all stages of development are faced with the pressures due to globalization, urbanization, climate change, and resource depletion. Environmental threats (climate change, earthquakes, floods, landslides, etc.), environmental degradation, and resource shortages are just some of the threats that are different in nature and affections. Some of them may cause long-term changes in urban systems (such as lack of resources) and some other can create shock to the city (such as earthquakes, hurricanes, etc.). Hence, the ability to return to normal state in the face of these shocks of urban settlements is different and may have a direct correlation with socio-economic status dwellers. Informal settlements are one of the biggest challenges that the urban sustainable development threatens a global scale. The settlements dependent upon socio-economic situation of residents and their physical characteristics are the most vulnerable cities against the environmental hazards. The urban poor as a most vulnerable group in natural hazards (floods, earthquakes, climate change, etc.) are a new dimension to the challenges and create more difficulties in achieving the millennium development goals.

Therefore, it can be said that in the event of environmental hazards, individual resilience of informal settlements is low. Given that individual resilience is one of the levels of social resilience that affects the mental characteristics of individuals, it can be affected by socio-economic characteristics. Hence, identification of the factors affecting individual resilience in informal settlements can lead to an increase in social resilience. In fact, explaining the resilience of societies against the threats is to understand how social, economic, institutional, political and executive capacities are influenced by the resilience of societies.

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Methodology

The purpose of the study is to analyze the differences in socio-economic indices and individual resiliency on the informal settlements residents in Urmia. This is an applied research by a descriptive and analytical method. We have used documentary and surveying (questionnaire) method to collect data. The study area of the research is Haji Pirlo, Vakilabad and Islamabad as 2 informal settlements of Urmia city, in the West Azarbaijan Province. Therefore, to complete the questionnaire on the basis of revised expenditure using Cochran, 380 households have been selected for the survey to respond questionnaire. To analyze the data, we have also used Analysis Of Variance (ANOVA).

Results and discussion

The purpose of this present research is to analyze the different aspects between the economic and social indicators in the resiliency of households in informal settlements of Urmia. Characteristics of respondents have been presented as followingin aspects of gender, 58.3% of the respondents are men and 41.3% are women, in aspect of age, 23.4% zre 19-30 years old, 27.1% 31-40 years old, 21.3% 41-50 years old, 28.2% more than 51 years old and in terms of education level, 26.3% of the respondents have diploma, most of the respondents are also illiterate (2.6%). In addition, among respondents in term of marital status, 83.4% are married, 16.1% were single and 0.5% of undeclared, in terms of staying time, 81.3% were residents here less than twenty years, 18.7% more than twenty years. In terms of gender of household, 95.3% were male and 4/7% women.

The result of this study showed that among the economic indicators, the employment index has relationship with the components of “Self-sufficiency” and “Feeling unique” in 0.000 sig and 0.002 sig, respectively. Income index is related with "Self-efficacy" and "self-confidence" components in 0.002 sig and 0.000 sig, respectively. Housing ownership index has also relationship with "positive emotions" component in 0.000 sig. and car ownership index with "sense of sociality" component in 0.001 sig. These have indicated significant differences.Among the socio-demographic indicators, only the education index has relationship with the components of “Self-sufficiency" and “confidence", respectively.

Conclusion

Individual resilience is the primary level of social resilience that has been addressed in recent years in crisis management issues. This aspect of resilience is directly related to the economic, social, cultural, psychological, and social characteristics, beliefs, and so on. These characteristics can enhance or weaken an individual resilience. Therefore, individual resilience can be considered as the pillar of social resilience. Informal settlements in Iran, due to the weakness of physical structures as superstructures and socioeconomic structures as infrastructures, are more vulnerable to the environmental hazards than the formal part of the cities. Socioeconomic characteristics of inhabitants of these settlements, such as unemployment, informal employment, low incomes, lack of social services, etc. can undermine their individual resilience including confidence, anxiety control, problem solving, coordination, positive emotions, self-esteem, etc., against environmental hazards. Thus, this can lead to difficulties in returning to normal state. The results of the research showed that employment, income, housing ownership, automobile ownership and education of individuals with some of the components of individual resilience, such as self-efficacy, feeling of uniqueness, self-efficacy, self-confidence, positive emotions, social feeling and trust is a meaningful difference. This could make the settlement more vulnerable to natural hazards. Therefore, in order to increase the individual's resilience to residents of these settlements, the following suggestions are presented:

- Planning for job empowerment of these settlements as one of the important components i to achieve a resilience society, especially in informal settlements.
- Providing basic services such as health insurance and retirement communities.

- Preparing comprehensive crisis management program for informal settlements due to their different structure than the formal sector of the city.
- Training courses and informing the public about environmental hazards and the need to prepare for them.

Keywords: individual resilience, informal settlements, environmental hazard؛Hajipirlo, Vakil Abad and Eslam Abad 2.

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Analysis of Spatial Structure of Population in the Central City-Region of Mazandaran in 1986-2011

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Extended Abstract

Introduction

Spatial structure of city regions has a dynamic nature. These regions over time are faced with many developments and transformations at different spatial levels. They are also affected by the exclusive condition of social, economic, and natural processes and mechanisms. In recent decades, most urban regions around the world are undergoing various processes of population such as urbanization, suburbanization, counter urbanization and re-urbanization. In the different cases, population changes are always influenced by centripetal and centrifugal forces. These forces make changes in the spatial structure of urban regions characterized by the pattern of mono-centric with a strong center. According to a polycentric structure, the peripheral centers are emerged. The analysis of population spatial structure has been carried in the numerous studies such as Modelling Urban Population Densities in Beijing 1982-90: Suburbanization and its Causes; The Spatial Restructuring of Population in Metropolitan Beijing; Suburbanization and Subcentering of Population in Beijing: Metropolitan Area: A Nonparametric Analysis ; and Population suburbanization in Barcelona, 1991–2005: Is its spatial structure changing?. Hence, the identification of population changes in the metropolitan regions is necessary to understand the spatial structure of changes during different time periods.

The aim of this article is to determine whether population distribution is occurring in Central Region of Mazandaran from 1986 and 2011 and how it is organized spatially. This issue is examined through an analysis of the spatial structure of the population of this region and its evolution in the period. In other words, the ultimate aim is to determine population changes associated with the spatial structure changes. Which spatial structure is more consistent with these developments? Recently, Mazandaran province is faced with population changes. According to the 1986 census, it had a population of 2274862 million and it increased to 3073943 million in 2011. The interesting point is that 70 percent of the population are concentrated in its central region. The significant polarization shows that regional spatial structure is emerging Polycentricity phenomenon, with population centers distribution of relatively similar and same-size. Therefore, this paper has analyzed population changes in Mazandaran central region and its impact on the development of spatial structure, during 1986 to 2011.

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Methodology

This research has an analogical paradigm. Central city-region of Mazandaran is selected as case study. This study investigates the spatial structure of population in the region. The census data produced by statistical center of Iran in 1985, 1996, 2006 and 2011 have been analysed by descriptive-analytical method. These data have been collected at the district level, rural and urban centers. District is the most suitable geographic unit for spatial analysis (especially population distribution in metropolitan areas) to consider rural settlements and urban-village.
In the first part of the data analysis, evaluation of population concentration and its evolution have been analyzed in Excel software for the calculation of Hoover, Herfindahl index and Concentration Ratio. Then, to assess population spatial structure in terms of morphological polycentricity, we have used GIS statistical analysis tools (Mean nearest neighborhood and Hot spots analysis) and rank-size model.

Results and discussions

To identify overall trends of population dispersion or concentration, we have used Herfindahl and Hoover and Concentration Ratio for concentration indicators. The findings of Hoover and Herfindahl indices show the concentration population trend 1986 and 2011. According to the spatial patterns of concentration ratio, we can say that the population distribution in 1986 is compared with 1996, a relative balance. Some population centers in the southern part of the region had a relatively high concentration. Since 1996, the concentration in the southern part of the region is greatly reduced, while it is increased in the plain and its central area. The previous trend is continued in 2006 and 2011. The results of the spatial pattern analysis of concentration suggest that the large urban centers are considered as gravity centers of population. According to the existence of four cities with relatively similar and same-size, this pattern is significant in population distribution.

This part of the research investigates the spatial structure analysis resulted from the population distribution and the existence of the polycentricity, by morphological indicators such as size and distribution of settlements. To evaluate the settlement distribution, we have employed the analysis of mean nearest neighborhood. This is calculated equal to 0.714. This indicates that population centers (both rural and urban) are organized as the cluster spatial pattern in regional level. Next, in order to display the cluster spatial pattern, we have used hot spots analysis and Getis Ord-G index. The rank-size model has been used to measure the size of settlements (for the cities more than 5,000).

The findings of morphological indicators showed that Sari, Amol, Babol and Ghaemshahr cities has retained its position as a major regional center with a relative balance between these centers. In other words, dominance of four cities with settlements of relatively same size around them demonstrates formation of Polycentricity structure.

Conclusion

The results of the research suggested that spatial developments trend of population in the region has tended to concentrate on four major cities. In other words, spatial pattern of population in Mazandaran central region has formed relatively strong polycentricity by dominant cities like Sari, Amol, Babol and Ghaemshahr. Finally, the results are consistent with a polycentric structure. However, this spatial structure is strengthening because the population is concentrating more on the central cities. Thus, to achieve balanced spatial development in the region, regional planning and policy making are necessary to achieve distribution of population in the city-region of Mazandaran.

For further study, population spatial structure can be analyzed in this region and the metropolitan areas of the country using the data of migration flows by newer and more complex methods.

Keywords: spatial structure, population, city-region, polycentricity, Mazandaran.

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Urban vacant lands and sufficiency of infill growth policy in mega city of Tehran

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Extended Abstract

Introduction

Infill development policy is the process to create the new town and new methods of urban development by optimizing the land use in the cities. This policy in comparison with other inside and outside growth policy is more compatible with the framework of the sustainability. This is also much closer to the aim of sustainability. The main purpose of this paper is to recognize the quantitative and qualitative attributes of infill development fields and also the importance of infill development policy as a solution for planning and physical growth management in mega city of Tehran. Assumption of this paper based on the infill development policy provides sufficient conditions with growth planning in Tehran. This is based on magnificent consideration including sustainability, environment, network of global cities and demands for globalization. This is also adapted to prospect of long-term development and solution of development in structural and strategic comprehensive plan of Tehran. It is capable of developing the social, economic, physical and environmental attributes of Tehran. This paper does not want to present the technics and structures of infill development design, whereas it concentrate on the analysis of the different aspects of infill development policy in order to resolve the urban growth management and the details of its design and it can be very helpful to their improvement and rectification. There are main objectives of this paper. First, this research is to declare the fields of infill development for inner growth policy in Tehran; second, to examine the infill development policy as a sufficient policy in spatial growth management in Tehran; third, to explain the reasons for this sufficiency.

Methodology

The method of this research is analytical-descriptive based on urban case study. Main data have been gathered by documentaries of 2016. The data have been processed after categorizing based on the analysis unit of the study in the main features of infill development land. The level of analysis contains the urban districts and regions. The unit of analysis is main fields of infill development. These areas generally include the areas of empty texture (undeveloped lands) and landscaped areas or built-up spaces (developed or formerly developed) of the city in planning ready for urban rehabilitation. Study variables include development and renovation of reserve areas, empty and vacant land (small scale and large scale), worn out texture, industrial and workshop sites, outbound urban passenger terminals, barracks and military spaces and prison and airport uses.

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Results and discussion

A kind of transmission has occurred from outer perspective to create cities and separated new town for inner perspective based on infill growth. Now, there is a kind of mutual perception in infill development. The results of this research acknowledge that inner land in Tehran provides the necessary quantitative and qualitative conditions for infill development. The area of the land and the various prospect of the positional patterns of the urban vacant lands make it possible to advocate urban growth planning based on infill growth policy. In this case, more than 18 hectares of lands and infill development fields can cover 30% of Tehran, turn it into a capable city for applying the infill growth policy. Infill growth policy is adapted to prospect long-term development and solution of development in structural and strategic comprehensive plan of Tehran. About 26 percent of the infill development of Tehran is attributable to development reserve. The bare lands are empty and abandoned areas where can form Tehran's physical capacity in different areas for infill development. The area of these lands is 4776 hectares which includes 26.3 percent infill fields and 7.7 percent of Tehran's area. The other major group is the land and property estate which has been built with certain land use. This accounts for a total of about 48% of the infill development capacity of Tehran. These developed or previously developed (abandoned) areas are residential (mostly worn out and inefficient) neighborhoods, contexts of industrial, military, commercial or service sites. In general, they can be called "prone to infill development" through redevelopment (neighborhood and urban texture renewal and reuse of urban buildings and sites). With the exception of worn-out textiles which are often fine-grained and with a centralized pattern of placement (focusing on several parts of central Tehran) with a dominant private ownership, other land uses are generally owned by the public sector and by government in large parts. In addition, due to the distribution pattern and dispersion in urban areas especially deployment in the areas requiring intervention (Southern and Eastern zones), the sites are prone to redevelopment to increase per capita services and strengthen infrastructure, loading utilities and multipurpose urban functions in accordance with the needs of the areas and plans of large scale projects. In addition to urban management and some parts of municipal income related to construction activities, sufficiency of urban growth policy in Tehran can be improved through some factors including low limitation of density, unsaturated capacity of population density, social and demographical changes, concentration of national urbanism and social tendency to residence in inner regions of big cities, protection of periphery and importance of considering periphery in urban growth policy.

Conclusion

Planning and urban growth policy is not a particular incidence with the purpose to decrease the concentration, eliminate the extra population, physical organization of the obtrusive land uses or recreation of old texture. The strategy is related to new and further developments, restoration of the spatial structures and urban life, and recreation of the cities. The importance of this fact is not only based on theoretical topics and major goals including sustainability, environment and transnational performance of city in regional and global cities, but it is also an essential issue with the respect to adaption of social demand, politics considerations and urban environment requirements. Thus, the decisions related to selection of the urban growth policy should not be only based on the economic prospect or the politics and environmental arguments. Because they must consider a collections of goals, conditions and provisions in geographical, environmental, social and cultural, political and practical, economic and livelihoods, physical and spatial and finally moral issues.

Middle fill growth policy is a multi-aspect and complicated issue. The reason why this the case is not only its comprehensive concept contains a wide range of urban properties and different goals and methods, but also its multi-aspect and controversial nature of planning by presence of numerous activists in this growth policy. As a result, any plans to prepare the infill growth action plan should be based on perception of social and cultural attributes of population, monitoring the demographic changes of urban residents, the size of available land parcels, action priorities, dynamism of nature restrictions and particularly adaption to the zoning of

those land uses compatible with urban zoning system. This system includes criteria and guidelines for urban infill growth policy.

Keywords: urban infill, infill growth policy, vacant lands, Tehran.

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Measuring Sense of Security in Urban Neighborhoods with an Emphasis on Social Parameters (Case Study: The 6th Region of Isfahan Municipality)

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Expanded Abstract

Introduction

One of the ways of provisional control and crimes prevention and, therefore, increase in the sense of security is to reduce the chance of crime by strengthening social relationships at the level of urban neighborhoods. Many theorists have commented on the relation between social factors and the level of the sense of security. Merry realized that the residents who lacked any kind of bond or social connection were more afraid of crimes. According to Jacob's theory, the feeling affiliated with the neighborhood and being committed to it plays a more important role relative to the presence of police in controlling the situation of the neighborhood and its security. In addition, Jan Gehl believes that monitoring urban spaces via increase in the residents' presence in the public or in other words, unofficial monitoring is the major condition to provide security. In relation to density, Georg Simmel believes that as the population density of cities increases, the intensity of social control decreases. Therefore, the sense of loneliness and anonymity of citizens is increased and their individuality is threatened. In fact, according to the approach of the sociology of security, one cannot analyze security alone as a situation without communicating with its social context. Therefore, by studying theoretical foundations of the research, this study has considered three social indicators (identity, social monitoring and population density) as the theoretical model of the research. The aim of this study is to investigate the sense of security to measure the role of social factors in the sense of security. This helps us classify neighborhoods in terms of social vulnerability and present suggestions to strengthen social factors to increase the sense of security in neighborhoods of District 6 of Isfahan Municipality.

Methodology

The statistical population of this study is 13 neighborhoods of District 6 in Isfahan Municipality. According to Cochran's formula, a sample size of 382 subjects was considered and to select the samples in statistical population, cluster random sampling was used. To determine validity, related experts were interviewed and to determine reliability of the questionnaire, Cronbach's alpha coefficient was used. The results show that the sense of security and social indicators are acceptable at alpha coefficients of 0.852 and 0.846, respectively. To analyze data, SPSS, Excel,

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and ARCGIS were employed. To investigate the indicators, a number of items were designed in the form of Likert scale and they were distributed among neighborhoods based on the obtained sample size.

Results and Discussion

- The sense of security in District 6 of Isfahan Municipality

Table 2. the indicator of citizens' sense of security in District 6

Indicator	Test value=3					Evaluation of indicator
	t-value	p-value	Mean difference	Confidence interval 0.95		
				lower limit	upper limit	
Sense of security	-17.83	0.000	-0.707	-0.78	-0.62	Low

Source: Findings of the study

- The role of social factors in the sense of security

Table 4. the status of security of neighborhoods in terms of social factors

Factor	Test value=3					Evaluation of indicator
	t-value	p-value	Mean difference	Confidence interval 0.95		
				lower limit	upper limit	
Social	-3.727	0.000	-0.143	-0.21	-0.60	Weak

Source: Findings of the study

Table 5. significance of the relation between social factors and the sense of security

Explanation		Sense of security	Physical factor
Sense of security	Correlation coefficient Significance level The number of observations	1	0.227** 0.001 195
Social factor	Correlation coefficient Significance level The number of observations	0.151* 0.035 195	1

Source: Findings of the study

*Significant at 95%, ** significant at 99%

- the difference of social factors affecting the sense of security in neighborhoods of the district 6.

Table 6. social factors among neighborhoods

Factors	Variance	Sum of squares	Degree of freedom	Mean square	f-value	p-value
Social	Inter-group	31.549	12	5.691	57.357	0.000
	Intra-group	33.540	182	0.064		
	Total	369.090	194			

Table 7. Classification of neighborhoods in homogeneous groups based on social factor of security

Neighborhoods	Significance level of classes at 0.05 alpha level		
	1	2	3
Shahid Keshvari	1.751		
Abshar	2.349		
Hezar Jarib	2.430		
Kooye Emam	2.565		
Ayineh Khaneh		2.568	
Sa'adat Abad		2.903	
Mosalla Mosque		2.985	
Feyz		3.008	
Hemmat Abad			3.199
Denart			3.233
Takht-e Foolad			3.356
Radan			3.375
Fizidan			3.408

Source: Findings of the study

Conclusion

Results of the study showed that the sense of security in District 6 is very low and social characteristics affect the sense of security in District 6 of Isfahan Municipality. According to the results of Tukey's range test, it could be said that Shahid Keshvari, Abshar, Hezar Jarib, and Kooye Emam neighborhoods are classified, respectively, in the weak class. Ayineh Khaneh, Sa'adat Abad, Masjed Mosalla, and Feyz neighborhoods are in the middle class, and Hemmat Abad, Denart, Takht-e Foolad, Radan and Fizidan are classified in a better class in terms of social factors. Some strategies to strengthen social relations in line with increase in the sense of security especially in vulnerable neighborhoods are stated as follows:

- To focus on historical and cultural heritage in neighborhoods for increase in the sense of belonging and to design new elements, to strengthen natural territories and specify the border of neighborhoods using objective and subjective symbols, and to increase neighborhood bindings via strengthening neighborhood relationships.
- To strengthen the sense of public control through promoting the culture of accountability and controlling space by the citizens. This is to increase the possibility of supervision by designing buildings overlooking public areas, to install benches and platforms for sitting in susceptible areas and routes, and to increase public monitoring through creation of recreation spaces in neighborhoods.
- To divide neighborhoods into sub-neighborhood units, to direct planning to prevent extra vacancy of spaces in special hours, especially at night or overcrowding of spaces, to reduce population density via preventing the spread of vertical development and preventing the microfilming of neighborhood textures by adopting non-violent policies.

Keywords: urban security, social parameters, the 6th region of Isfahan municipality.

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Physical Development Patterns of Urmia City and Providing an Optimal Pattern to Increase Compression

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Extended Abstract

Introduction

One of the vital issues of the 21 century for urban scientists is urban form (Compression or distribution) and urban stability. Therefore, knowledge of the urban spatial form and its shape can have an important role in the success rate of urban planners and help us improve the urban environment. As urban growth pattern is related to one of the most accessible human resources of the earth, so it is important to consider the main criteria for sustainable urban development. Urban population growth and rapid expansion of cities has faced most countries in the world with numerous problems. The problems affected not only urban policy but also the socio-economic and environmental issues in most of the urban areas. Among these problems, we can point to sprawl, spatial imbalance, development without planning, increased infrastructure costs, loss of agricultural land with good quality, expansion of urban areas, formation of low-density tissue in the margins of the city and the difficulty of service. The purpose of this study is to evaluate the situation of urban density and compression in Urmia and the process of its growth and development. By using the results, we can achieve a suitable pattern and strategy for the future development of the city.

In order to solve negative effects of the widespread distribution of cities, we have proposed different suggestions, solutions, ideas and opinions. Sustainable development as the theory of the third millennium and a replacement for the previous school ideas represents the necessary condition for the balanced development in social, economic, administrative and physical space. One of the fundamental functions in urban planning is paying attention to the physical growth and development of the city. Therefore, the necessity of planning and urban appropriate design is to use the methods of development required to prevent construction of agricultural lands around the cities and urban sustainability. Therefore, we have calculated the degree of distribution and compaction of Urmia based on quantitative indicators in different periods with the mixed land use.

Methodology

Research Methodology in this study is Analytical-descriptive. The population is the residents of Urmia and its four regions. The information has been collected through detailed results of General Census of Population and Housing, Comprehensive Plan and the maps of current

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situation. To investigate the process of urban development we used Heldern, Shannon entropy and accumulation index in order to solve the problems related to urban sprawl. Mixed land use policy is offered for urban compression. To review and assess the state of mixed land use, we used Balance Index, Herfindahl-Hircshman, Dissimilarity Index and Atkinson.

Results and discussion

The results of Heldern model showed that only 59 percent of urban expansion has been due to the Population growth and 41 percent has been related to horizontal growth and sprawl. This can result in a decrease in population gross density and increasing gross per capita in urban land. The amount of entropy for the year 1989 has been 1.362, While the maximum value is Ln= 1.386. Proximity to the maximum amount of entropy can represent urban sprawl. For year 2007, this amount has been 1.312. This shows that during 20 years, Physical expansion has been scattered and non-condensing. Moran coefficient was -0.16 for population and -0.01 for job. Gary coefficient was 1.4 for population and 0.94 for job. These coefficients have represented Urban Sprawl for population and pattern of random agglomeration or multipolar for job. In the second part of the study, to determine diversity and mixed land use, we have employed the balance, heterogeneity, Hirschman and Atkinson models. The results of these models show that among the Urmia districts, the district 4 has the best conditions due to having a variety of uses with useful distribution and district ۳ has the worst of these conditions.

Conclusion

The results showed that the city of Urmia has expanded sprawl. Therefore, the mixed land use is offered as one of the ways of urban compression. The housing and leisure together are the components of basic needs. While each of these sectors have certain and separate scale at the same time separation, it is necessary and essential to continue living. As the results of the study showed the district 4 is located in the Urmia City Center. Compared with other areas, the district has more diversity and incorporation. That is because of centralization of this area and the existence of market and business sectors. The ownership is another factor that influences urban development.

Great owners around the urban aras has sold their lands in the north-western and south. Thus, from the direction of the Northwest and south of the city (region 1 and 3), the areas have the lowest level of concentration and the incorporation. The existence of the villages close to the city has caused growth of the city. For evaluation of the mixed land use, we have used the models of diversity to determine balance, heterogeneity, Hirschman and Atkinson. According to these indicators, district 4 has the best and district 3 has the worst.

Keywords: Physical expansion, urban compression, density, mixed land use, Urmia.

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The effects of urban design on the behavior and morality of the citizens (Case study: The streets of the Imam, Modares and Kashani of Urmia)

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Extended Abstract

Introduction

Urban streets as part of the public spaces are available for efficiency of the social and cultural environments. It can be said that the streets as the communication space have the role of dividing and reinforcing the structure of city. They are directly related to application patterns and user behavior in space and can place the formation of social interactions and behavior patterns. Given that most behavioral disorders are happenning in urban public spaces such as streets, these spaces are rarely able to provide the appropriate ground for organizing moral and behavioral patterns. Attention to the design patterns of the streets through physical and visual criteria such should be taken into consideration. Hence, this study investigates the effects of urban design on the behavior and morality of the citizens with an emphasis on the three streets of the Imam, Modares and Kashani of Urmia. This is looking to answer the following questions:

1. Can visual and physical criteria on the street lead to desirable or undesirable feelings?
2. Does the street design model affect how people behave in the street?
3. Do physical criteria affect women's emotions and behavior more than men?
4. Finally, in order to compare the three streets of Imam, Modarres and Kashani, this question arises as to whether the level of ethics in the streets of Imam, Modarres and Kashani is different.

Methodology

Analytical-descriptive correlation research method has been used in this study. We have selected 80 people with confidence coefficient 95% as the sample using Cochran. These are mainly the people with Presence and Walking experience in these streets. The collected data are composed of 18 visual and physical criteria by field (primary data) and using interviews and questionnaires. The cluster is distributed equally between men and women. For evaluation and data processing methods of descriptive and inferential statistics, sach as Friedman test and Pearson correlation test, have been in SPSS. Hence, in order to investigate the effects of urban design on the behavior and morality of the citizens, 18 visual and physical criteria (Balance, fitness, harmony, homogeneity, opposition, contrast, clarity and readability, rhythm, continuity,

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alignment, flooring, skyline, visual pollution, furniture, closeness, sign, lighting and the quality of lines of pedestrian) have been discussed on the streets of the Imam, Modares and Kashan.

Results and discussion

In order to analyze the data from the questionnaires, we have initially calculated raw scores the weighted average of each question. By multiplying the raw scores and weighted average of each question, weighted score for each of the streets of Imam Khomeini, Ayatollah Modarres and Ayatollah Kashani has been calculated separately.

Based on the obtained ranks by Friedman ranking; the quality-oriented behavior in Imam St. with a score of 2.29 is greater than those of Kashani and Modares. The street Modares has the lowest rating. The reviews related to the impact of physical and visual elements on the street shows that in terms of the appropriateness of physical and visual elements Imam St. with 2.47 obtained the highest rank. To investigate the relationship between physical - visual quality in the street with the quality of every street-oriented behavior, we have used the Pearson correlation coefficient. According to the results, the Pearson correlation coefficient obtained 0.884; this reflects the close relationship between variables. Finally, emotions of men and women in the streets show that the quality of urban space has a greater impact on the perceptions of women compared with men with the rank of 1.63 to 1.38.

Conclusion

According to the results, a sense of emptiness and isolation, insecurity and fear, a feeling of confusion, use crosswalks, vandalism, and the pause to navigation in this street is effective on the women than men. This is in agreement with the results by Bazvandi and Shahbazi (2014) on the walkway of Sepahsalar St., Tehran. In other words, common results of the findings show that façade, appropriate lighting, space availability, space for sitting, variety of space usage times, pedestrian safety, and suitable flooring was considered as an effective factor in the use of space. The men have more relax feeling, easy access and routing, sense of pride and glory than women in Imam St. Stress and anger sense in Imam St. for women is more than that for men, the feeling for men on the street Kashani is more than women and in Madras it is equal for both men and women. According to the results, physical and visual criteria are more effective women than men. In order to increase design quality for access to space-based behavior in the streets following strategies are recommended:

- Skyline in the streets must be regular and continuous. The creation of a suitable viewing axis is important for visual indicator principles guide.
- Strengthening indicator principles in the body using the elements such as light and color
- Reforming visual and environmental pollution in the street
- Reduction of color density at intersections to increase anxiety and confusion.
- Use of appropriate size, color and different forms in the design of walls and also suitable materials and various lights for coloring.
- Use of a lighting system to respond to the lighting of streets and providing comfort on the move and attractive sidewalks for pedestrians.

Keywords: urban design, visual and physical criteria, ethics and behaviors of urban area, urban streets, Urmia

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Effects of urban physical development on security of urban neighborhoods (Case study: Maragheh)

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Expanded Abstract

Introduction

In addition to negative environmental and economic impacts of sprawl in cities, the phenomenon leads to high rate of social costs due to neighborhood movement and formation of suburbs. Urban sprawl or vertical expansion with new constructions around city can cause socio-economic damages and environmental destruction in cities. Jane Jacobs in the death and life of great American cities addresses security issues, spatial and physical deterrent factors of cities and neighborhoods. In this present study, we have explored Maragheh city. Despite population changes of Maragheh in different periods, the city is faced with turbulence and changes in urban growth. However, population of Maragheh in 45 years (1966-2011) increased 2.7 times (Iran Statistic center, 2011), in turn the area of the city at the same period increased 16.5 times and faster than its population growth (extracted and calculated by author based on detailed plan and Iran statistic center data, 2009). This has resulted in an imbalance between area and population growth in each period of urban growth. This pattern of physical growth of this city tends to be sprawl expansion. It seems that this form of city expansion have caused socio-economic impacts, especially undesirable environmental impacts such as agriculture land use changes, air and soil pollution, and degradation of urban green spaces. Based on these findings, suitable pattern in regard to growth and physical expansion of the city is captured by special importance and have to be considered in planning.

In present research, at the purpose of this research is to assess the links between effective factors of sprawl and security using spatial statistics methods, effectiveness rate of sprawl factors in security of neighborhoods. In regard to the indices used by theorist such as Glaster and Ewing sprawl variables are extracted. One of the complete methods of urban sprawl is the method Ewing in 2002. He believed that because of the complicated nature of sprawl, it is hard to measure it by multi variable. He insisted on the variables like population and constructions density, main streets accessibility, rate of concentration and urban centrality. In this research, we have used some variables including population and constructions density, distance from center, rate of open spaces, accessibility and rate of residency. Security variables such as theft, neighborhood and family quarrel, addiction, transportation, and open spaces have been gathered

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using questionnaire by citizens. Sprawl variables have been extracted by the existing data using ArcGIS and security variables through questionnaire and statistical calculation.

Methodology

This is an applied research with descriptive analytic method. Field study and library method have been used to gather information in the field of links between form and shape of city and its effects on security. At first, the factors of urban sprawl and residency transformation of neighborhoods (population density, open space rate, buildings density average, and distance from neighborhood center, and period of residency in neighborhood) assess detailed and comprehensive plan using ArcGIS 10.2.

Results and discussion

Present study is conducted in 3 stages including assessment of urban sprawl, neighborhood security and finally measuring effectiveness of sprawl factors on neighborhood security. The results indicate that the effects of population and building density and security in neighborhoods like Sahand, Valiasr, Chehlmetry, Ohadi, Daraie, Pasdaran, Sheikh-Taj, Darvazeh contains planed texture . Generally, the effects of these factors except distance from city center and accessibility are like each other. The impacts of these factors in northern neighborhoods are positive and accessibility and distance have positive impacts on southern and peripheral neighborhoods.

Conclusion

As said before, the aim of this research is to analyze the effects of urban sprawl on the neighborhood security by multi variant regression and the effects of urban sprawl factors on the neighborhood security. In the next stage, the rate of the factors is calculated by geographically weighted regression. The amount of overall effects on security is measured through different nature of factors. For solving this, the effects of each factor are separately analyzed.

The second aim is to compare results of multi variant regression with geographically weighted regression. The results of multi variant regression have positive or negative impacts. The geographically weighted regression shows the impact factors in spatial and in the neighborhood level and determines that how is the impact factor. It can be suggested that for analysis of geographical and spatial issues, we have used geographical weighted regression.

Keywords: sprawl, security, GWR, GIS, Maragheh

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The role of geomorphic parameters in Selection of Solid Waste Landfill Site (Case Study: Firooz Abad City)

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Expanded Abstract

Introduction

Urban population is increasing day by day and consequently the amount of waste produced in the world has a rising trend. Thus, each day the management of this important issue is becoming more complex and at the same time more urgent. This is important because nowadays landfill development without regarding environmental issues is a serious threat to the survival of living things including humans. Therefore, selection of the suitable place for Sanitary landfill is essential. In this regard, the utilization of urban waste can be performed by a variety of methods such as cumulative, burning outdoors, compostion, use as animal nutrition, the use of tooling incinerator and so on. However, sanitary burial is still the most common method to landfill. In Iran, Solid Waste Landfill Site selection is often performed in the comprehensive urban plans, but systematic and environmental approach of issue is partly disregarded. These sites are just determined by relying on one or more indicators of burial place. High population growth and physical development of Firuzabad in Fars province leads to the production of about 100 tons of solid waste daily in the city. On the other hand, the current inappropriate location of the landfill in this city caused pollution of water and fertile ground resources; this research is trying to determine the optimal sites for burial of waste in this city. The selection criteria are geomorphological, hydro-climate, land use and the distance from communication lines.

Methodology

Firozabad city in southwestern Fars province is located within a hundred kilometers from the city of Shiraz. This city is limited from the north to the cities of Shiraz and Kazeroun, from West to Farashband, from south to the city of Ghir and Karzin and from the East to the city of Jahrom. The average height of Firozabad Plain is 1320 meter and an average slope is five percent. This research is conducted by descriptive-analytic method and was examined using field and library data (documents, maps, and satellite images) in the study area. Then, to determine the values and weights of various criteria in the location of landfill, we have used fuzzy logic in ArcGIS to design a model for choosing the landfill. Fuzzy logic is capable to formulate many concepts and variables and the systems that are vague and provide the basis for reasoning, controlling, and decision making under uncertainty conditions. The degree of membership, union and intersection, complementation, multiplication, addition, and gamma are

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the basic powers of this combined model. In the process of suitable land for waste disposal, conceptual model and influencing variables in the model are identified. The variables are the communication network and privacy, infrastructures and equipment, production, consumption, and recycling. The models are defined and explained after definition the information layers including topography, slope, geology, soil science, fault obstacles to the development, communication network of rural settlements, and surface water. These layers in the form of topology, correction and editing, geometrically corrections of images and mapshave been performed. After definition, the proper method for integration functions was identified and after tabular analysis the database has been detected and evaluated for the landfill site.

Results and discussion

Slope, aspect and topographical features of the study area are the most important geomorphic parameters affecting optimal areas for landfills in different areas. The location selected for the landfill must have the correct distance for permanent and seasonal rivers. In addition, the position of groundwater, aqueducts and wells should also be examined for the purpose. In general, for convenyence and reducing transport time and costs, the landfill should be located near the existing roads and paths. The landfill should be in adequate distance from all lands for special user. It should be noted that without the use of a powerful system as a secure tool that have the ability to use multiple layers of information and analysis, the possibility of solving this problem will not be possible. In decision-making problems and GIS due to the vast capabilities of the ability to integrate and overlay layers, the best appropriate and reasonable choice to find the perfect place and related technology is use of of GIS for landfill. That is why after standardization of the maps the steps of combining the layers begins to access an appropriate place for the landfill. At first, the obtained maps from the previous step are re-weighed, and all the maps are converted into a single map that shows the location. At this stage, the impact of each of the obtained maps is determined by their impacts on the location. The total weight of study layers should be 100 and to prepare eventually the final map.

Conclusion

In the present study, the fuzzy logic is used to determine the values and weights of different criteria to select optimized areas for solid waste disposal site in Firozabad so that it has the ability to responds to future needs. Different layers of information have been combined and appropriate and inappropriate areas have been identified for landfill. Final map shows the different areas according to their ability of creating the landfill. There is the possibility to use the proximity to other areas. Thus, the base of installation and related equipment for recycling and compostion plant is also provided. Finally, after the evaluation and overlay of the weighted layers, the best option is located in the East and North East, and partly the northwest region. In this place, many environmental parameters for solid waste landfill are appropriate and there are possible current and future investments in this field. There is the evidence that some places are determined as inappropriate places mainly on the fertile plains with high permeability and good areas. The areas are mainly in the foothills that have the required thickness of the soil and far from population centers. This is suitable land for agricultural uses which are sensitive. According to the research results, the central part of the Firoozabad City has the most difficult places to make the landfill.

Keywords: landfill, site selection, Firoozabad, urban waste management

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