*J. Appl. Environ. Biol. Sci.*, 4(4S)54-60, 2014



ISSN: 2090-4274
Journal of Applied Environmental and Biological Sciences
*www.textroad.com*

# Investigation and Analysis of Urban Planning System to Promote the Quality of Urban Environment (Case Study: City of Shirvan)

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*Received: July 2, 2014*
*Accepted: September 15, 2014*

## ABSTRACT

Present study aims at examining influential variables in investigation and analysis of urban planning system to promote the quality of urban environment, with the case study of Shirvan city. Also, it aims to have a more scientific and expertise view on the qualitative factors of environment. Accordingly, considering theoretical literature related to the quality of environment, a conceptual framework of consisted of 15 factors were developed and analyzed. Research type in terms of purpose is development and practical and in terms of methodology is descriptive-analytical. Sample size was selected to be 200. After the questionnaires were collected, data using SPSS-AMOS Software were analyzed. According to the test's results, all sub-hypotheses were significant. According to the results, variables reliability of environment (promoting the quality of urban environment), effectiveness and productivity (promoting the quality of urban environment), citizenship rights and responsibilities (promoting the quality of urban environment) and urban planning system (promoting the quality of urban environment) predict 1.000, 0.762, 1.030 and 0.97 of the dependent variable, at the significance level of 0.97 and 29% explanation.

**KEYWORDS**: planning system, urban planning, promoting quality, urban environment, city of Shirvan.

## INTRODUCTION

Friedman classic book (1987) about the public and general planning clears this subject to a great extent that program planners have a considerable responsibility to cooperate and involve in the creation of free, rule-based and responsible communities, in which complex and compound choices are evaluated and measured and appropriate programs for it are implemented and completed. Such programs have direct consequences and results on both public and private aspects of the public life as well as on the life quality of citizens (Massam, 2002, p. 198).

Chiras and Wann (2003) have suggested the approach to create local communities and to achieve to the sustainable development, engagement and to create appropriate relations and more between home and neighborhood and have recommend that factors such as energy, health, safety, entertainment and time leisure, labor, investment, transportation and transportation, environment and daily used resources as requiring for the creation of sustainable communities. He refers to ten below principles as key principles in design and planning of sectors: 1) humanity scale; 2) responsibility sense in use of resources; 3) Walk-oriented; 4) open spaces; 5) public features; 6) street landscapes; 7) diversity; 8) mixed function; 9) coordination and integrity; 10) resources maintenance. Babcock and Larsen enumerate conditions of a developed and sustainable sector as follows: complete hygiene and health, existence of participation incentives between residents, tissue of correct locations, appropriate vision and landscape, order in heights and the volume of buildings. They believe in planning and programing of a good sector, most important factor is appropriate separation and functionality of lands.

According to Novak (1997), an appropriate planning requires that in terms of security, psychology, philosophy, social and community sciences to learn how we can identify the apparent and hidden problems of life in urban sectors and how we can improve the security of sectors in which children, youth, teens and middle-ages are living. Also, Pressman believes that urban sectors must have open spaces and appropriate walk pathways, safe and beautiful nature, moderate traffic and also paths for walkers and bicycle riders. According to Barton, the main goals for stability of sectors include providing security and safety for residents, increasing social assets, promoting social justice level, increasing self-sufficiency, maintaining natural and culture resources and legacies, to create sense of place and promoting the quality of life. According to these goals and guidelines, Barton defined sustainable development indicators as follows: social relations, participation of people, access and communications, diversity, access to facilities and services, security, avoiding different types of pollution such as noise, air and visual pollutions, having local recycling systems, having sense of place, legibility, human scale, identity, vitality and dynamics. City builders and planners usually refer to components of the various aspects of the quality of the urban environment that in the following some of them are referred to:

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- City must have its identity. Some of the city's characteristics include: diversity, innovation, good-looking and high levels of the mutual interaction.
- The city must reflect the society and the nature of the world and also to strengthen them.
- Regularity, clearness and statement of current performance are among the most principal criteria. Person should be happy because of the existence of attractive, huge, technical and complex facilities in city.
- Principally, city is a controlled dynamic system with the main elements of market, institutional functions, communication network, special changes and the decision-making process.
- Environment though personal experience and due to the qualities such as openness, legibility and meaning, order, and the sense of happiness becomes valuable.
- City is a tool for providing profit or power.

Accordingly, city is a scene for competition, expertise and exploiting and division of resources. Many researchers over the past decade from fields of urban planning, economics, social issues and so on have investigated the concept of urban environment quality and based on various aspects have proposed different criteria for a suitable urban environment that some of them are given below.

Saut Worth issued 12 criteria as the main factors affecting the quality of urban environment which include: accessibility, comfort, vitality and life, joy and happiness, form, protecting environment, diversity and heterogeneity, meaning, readability, construction, openness of spaces, restoration, maintenance, health and safety (Bahraini and Tabibiyan, 1998, 44). Professor Dohel at the Berkeley University of America in middle of the previous decade in a conference in Toronto of Canada introduced the following 10 criteria as the quality attributes of urban environments:

- High level of health care according to the accepted hygienic standards;
- Existence of useful and accessible health care services for all residents;
- High quality of environment body and housing;
- The existence of healthy ecosystems;
- The existence of active and meaningful sectors;
- Meeting the basic needs of citizens;
- Existence of social relations within reasonable limits;
- Existence of a diverse and self-sufficient economy;
- Diversifying cultural activities (the same: 43).

Hildebrand Frey introduce following properties as influential on urban environment quality. Based on his opinion a good city should have the following features:

- Provide all the needs of its residents.
- Must have safety, security and protection and should be an organized and regular environment visually and functionally.
- Social environment must be steering and enhance the sense of place.
- Must have a good image, reputation and prestige and gives people a sense of confidence and dignity.
- Must give people the opportunity to be creative, to shape their own spaces as well as to present their viewpoints.
- Environment should be favorable in terms of aesthetics and the city's body should not be uniform (Brandy and Hilder, 2004: 30).

Population growth that in recent decades has led to urban development has faced theorists as well as users of the cities with challenges. These challenges are generally around concepts and components affecting the quality of life and consequently the quality of urban environment. The quality of urban environment considers coincidentally both quantitative and qualitative aspects of urban elements and their constituting component.

With development of urbanization, its problems also gradually were recognized and emerged. Since the mid-1960s, the urban crises expanded and after the spread of crisis into different aspects of city life, including environmental, social, structural, economic, and so on, a public awareness about the environmental problems and declining quality of city's environments on the scale of cities and residential neighborhoods arose (Orang, 2007: 10).

With the emergence of environmental crises, environmental quality was recognized as part of the overall concept life's quality. This concept as a reflection of a person's overall sense of well-being includes all the factors that are involved in human satisfaction (Van poll, 1997: 1).

In the 1960s, identifying criteria for assessing the quality of the environment began, and since time onwards many standards for physical, social and economic indicators have been developed.

In the first United Nations Conference about settlements [3], in 1976, the concept of environmental quality was introduced. In this conference, environmental quality was introduced synonymous with meeting basic human needs as well as social justice. These basic needs may include: food, housing, employment, hygiene, freedom, honor, and the possibility of personal progress and the fair distribution of development incomes (Bahraini, 1998: 146).

Planners believe that environmental quality is a key concept in regional and social planning and is associated with concepts such as quality of life, social climate variability, physical characteristics, activities, locational dependencies and urban identity. Locational dependency, in turn, has its roots in positive and negative personal experiences in a particular location as well as historical, cultural, social, geographical and ecological factors. Some planners consider environmental quality besides factors such as fairness, consistency, comfort and efficiency as the most fundamental principles of town planning in order to create an organized city and reduce pollution as well as to control spatial disorders in cities (Shamaei and Pourahmad, 2005, 14).

Faraji, Azimi and Ziyari (2010) based on official statistics studied the quality of urban life in some urban areas of Iran. In this study, Morris pattern were used to measure the quality of life, in which purchase power, the level of literacy and life expectation as the main component of life's quality were measured. Among 253 studied cities, only 24 cities, i.e. 9.5 percent, are qualified. Near 50 percent of studied urban areas are deprived zones. Tehran as a heterogeneous urban area has separated itself than other urban areas. Unbalanced distribution of country's investment has caused a development gap up to 3.9. According to these researchers, considering the value of this index, i.e. 3.9, is very higher that 1, the intensity of this gap is apparent.

Ghalibaf and Rostayi (2011) to study the quality of urban life in the neighborhoods of Yaftabad in Tehran used the combinatory index, which is consisted of four dimensions of quality of transportation, quality of the economic environment, quality of the social environment and quality of the physical environment. Accordingly, the status of three dimensions of economic, social and environmental evaluated as unfavorable and only the status of transportation was evaluated as favorable.

Maleki and Habibi (2011) studied environment's quality and stability of urban areas through mental method and besides linking environment's stability and its quality measured the environmental quality in four broad categories of environmental, social and cultural, economic and physical.

Ghaffari Nasab (2011) described the role of active citizenship in the quality of life analytically and descriptively and stressed on strengthening active citizenship.

Vesali and Tavakkol (2011) addressed the impact of social assets on the quality of urban life in Tehran and found a high correlation between social assets, especially its confidence dimension, with the quality of urban life.

**Table 1: component of environment's quality**

| Researcher | Components of Environmental Quality |
|---|---|
| **Jane Jacobs (1961)** | Considering appropriate activities before giving attention to the visual order of environment, using of the mixed functionality either in terms of the type of use or in terms of presence of buildings with different ages in an area,, permeability of the context, suggesting social mixture, flexibility of spaces. |
| **Appleyard and Okamoto, (1968)** | Sound, light, smoke, dust, micro-climates, quiet, valuable activities and environments, local identification, social interaction. |
| **Lansing and Marans (1969)** | Openness, comfort, attraction, maintenance, sound and their relationship with residents of sectors. |
| **Sanof and Sauni (1972)** | Safety from fire, police, safety, quality schools, regulated garbage collection, safe area for children, friendly neighbors, convenient distance of sidewalk from the church, child holding centers, safety from the voice of street, trees near the house, appropriate distance from friends, reasonable distance from relatives, parking. |
| **Appleyard and Lintel (1972)** | Traffic disasters (traffic hazards), stress, noise and pollution, private realm of the home, neighborhood and meetings, identification and attachment. |
| **Karp et al. (1976)** | Sound, beauty, neighbors, safety, mobility, harassment. |
| **Kevin Lynch (1981)** | Vitality, meaning (sense), compatibility, access, control and monitor, and two main criteria of efficiency and justice. |
| **Professor Dohel (1984)** | High levels of hygiene based on accepted hygienic criteria, existence of useful and accessible health services to all residents, the high physical quality of the environment, housing, existence of healthy ecosystems, existence of active and meaningful districts, meeting the basic needs of every citizen, existence of social relations within reasonable limits, existence of a diverse and self-sufficient economy, diversity of cultural activities, existence of an urbanization patterns in accordance with the above 9 factors. |
| **Bentley et al. (1985)** | Permeability, variety, legibility, flexibility, visual adaptability, richness, personalization capabilities. In 1990, three other criteria of efficiency in terms of energy consumption, cleanliness and supporting wildlife were added to overcome the shortcomings of the previous measures. |
| **Allan Jacobs and Donald Appleyard (1987)** | Vitality, identity and control, access to opportunities, joy and imagination, originality and meaning, a sense of social and public life, urban self-reliance, an environment for all. |
| **Michael South Worth (1989)** | Structure, legibility, form, sense of place, identity, views and landscapes, human or pedestrian scale. |
| **Romanasidocoy et al. (2003)** | Water, air and noise pollution, waste, bustle and traffic. |
| **Source: Hajinejad, 2011: 71.** | |

## METHODOLOGY

Given the main purpose of the study, i.e. investigation and analysis of urban planning system to promote the quality of urban environment (case study: city of Shirvan), a questionnaire based on the Likert scale for the city of Shirvan, located in Iran, was designing and distributed between 200 respondents. In other words, sample

size was 200. Meanwhile, in this paper to study data, factor analysis is uses. Cronbach's aloha test and Bartlett test value were obtained equal to 0.89 and 0.82 obtained, which in turn show goodness of using structural equations. Thus, the study of preventing than unbalanced spread of city was conducted through four hypotheses. After gathering of questionnaires, data using SPSS-AMOS software were analyzed.

## RESULTS

In this research, about 67% of the respondents were male and 33% percent were female.

### Assumptions

### The main hypothesis

1. There is a significant relationship between urban planning system and improvement in the quality of urban environment.

### Sub hypothesis

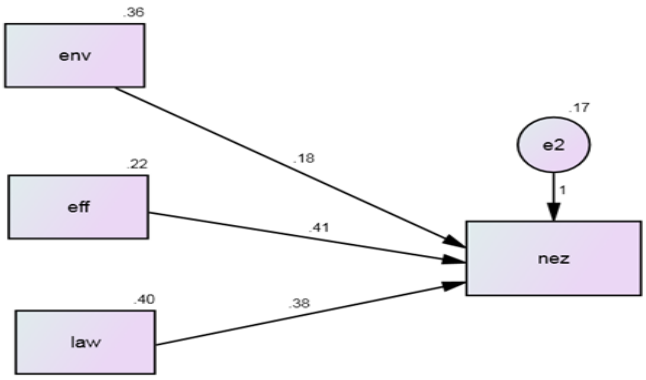
1. There is a significant relationship between urban planning system, environmental suitability, natural values of city and its surrounding.
2. There is a significant relationship between urban planning system and the efficiency and productivity of all existing urban capabilities.
3. There is a significant relationship between urban planning and rights stability as well as citizenship responsibilities.

To investigate above hypotheses, the model defined for the complementary questionnaire is used as follows. In this researches' questionnaire, items were defined as follows:

| Items | Variable | Latent variable |
|---|---|---|
| **Noise pollution** | Environmental suitability, natural values of city and its surrounding. | Improvement of the quality of urban environment |
| **Smell** | | |
| **Pollution** | | |
| **Waste** | | |
| **Security** | Efficiency and productivity of all urban capacities | |
| **Bustle** | | |
| **Urban utilities** | | |
| **Sense of belonging to a place** | | |
| **Multiplicity of buildings** | | |
| **Identity and cultural integrity** | | |
| **Green space** | | |
| **Social relations** | | |
| **Access to services** | | |
| **Stability and vitality** | Stability of citizenship rights and responsibilities | |
| **Discipline** | | |
| **Physical stability** | | |

Using the software AMOS Version 20 and a sample of the size 385, obtained results are as follows.

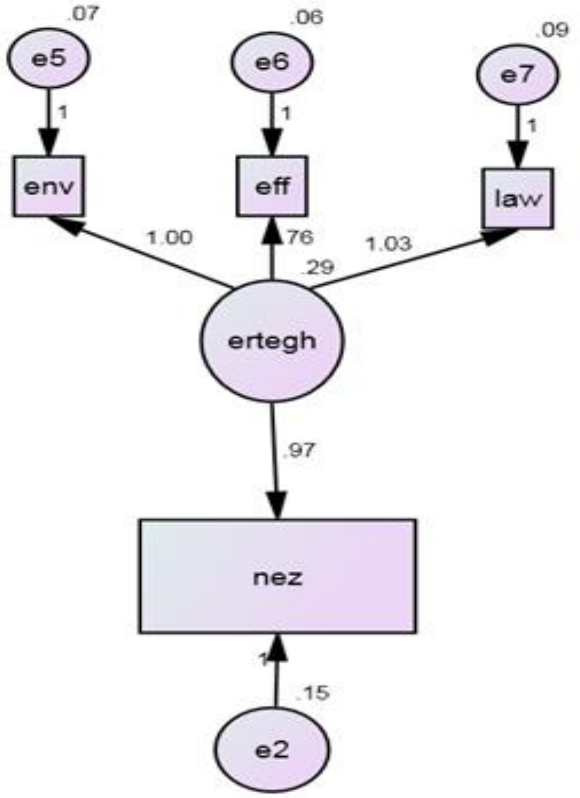
The figure below examines sub-hypothesizes of the research. As it can be seen in this figure, each variable's coefficients are written on the arrows and their significance is also written on rectangles indicating associated variables to them. The significance of variables environmental suitability and natural values of city and its surrounding, the efficiency and productivity of all urban capacities and stability of citizenship rights and responsibilities are equal to 36, 22 and 40 percent, respectively.



The following table shows results of the significance test of variables of the sub-hypotheses. As it can be seen, all the variables are significant.

| | Estimation | Standard deviation | C.R. | P-value |
|---|---|---|---|---|
| **Rights and Responsibilities of Citizenship** | 0.397 | 0.029 | 13.68966 | < 0.0001 |
| **Efficiency and Productivity** | 0.225 | 0.016 | 14.06250 | < 0.0001 |
| **Stability of environment** | 0.357 | 0.026 | 13.73077 | < 0.0001 |
| **e2** | 0.167 | 0.012 | 13.91667 | < 0.0001 |

Now, we test the main hypothesis in the presence of a latent variable called "improving the quality of the urban environment".
According to the results, the proposed model based on the figure below shows the significance of the variables. Numbers on the paths indicate the weights of beta coefficients.




| | | | Estimation | Standard deviation | C.R. | P-value |
|---|---|---|---|---|---|---|
| **Stability of the environment** | ---> | Improvement in the quality of urban environment | 1.000 | | | |
| **Efficiency and Productivity** | ---> | Improvement in the quality of urban environment | 0.762 | 0.031 | 24.313 | < 0.0001 |
| **Rights and Responsibilities of Citizenship** | ---> | Improvement in the quality of urban environment | 1.030 | 0.041 | 25.121 | < 0.0001 |
| **Urban planning system** | ---> | Improvement in the quality of urban environment | 0.970 | 0.046 | 21.010 | < 0.0001 |

The table below indicates the fitness index of RMSEA and the optimal value calculated smaller than 0.9.

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default model | 0.103 | 0.046 | 0.169 | 0.061 |
| Independence model | 0.712 | 0.678 | 0.747 | 0.000 |

Finally, the table below shows the impact of each item of the model on the urban planning system. Significant cases are marked in yellow.

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| nez | ---> | **Noise Pollution** | 0.11 | 0.027 | 4.039 | < 0.0001 |
| nez | ---> | **Smell** | 0.102 | 0.025 | 4.166 | < 0.0001 |
| nez | ---> | **Pollution** | 0.012 | 0.028 | 0.418 | 0.676 |
| nez | ---> | **Waste** | 0.01 | 0.031 | 0.319 | 0.75 |
| nez | ---> | **Security** | 0.031 | 0.039 | 0.795 | 0.427 |
| nez | ---> | **Bustle** | 0.045 | 0.038 | 1.202 | 0.23 |
| nez | ---> | **Urban facilities** | 0.129 | 0.024 | 5.294 | < 0.0001 |
| nez | ---> | **The sense of belonging to a place** | 0.126 | 0.035 | 3.59 | < 0.0001 |
| nez | ---> | **Multiplicity of Buildings** | 0.135 | 0.041 | 3.276 | 0.001 |
| nez | ---> | **Identity and cultural integrity** | 0.136 | 0.032 | 4.268 | < 0.0001 |
| nez | ---> | **Green space** | 0.091 | 0.035 | 2.603 | 0.009 |
| nez | ---> | **Social Relations** | 0.189 | 0.026 | 7.347 | < 0.0001 |
| nez | ---> | **Access to Services** | 0.163 | 0.025 | 6.429 | < 0.0001 |
| nez | ---> | **Stability And Vitality** | 0.014 | 0.026 | 0.523 | 0.6010 |
| nez | ---> | **Discipline** | 0.292 | 0.028 | 10.342 | < 0.0001 |
| nez | ---> | **Physical Stability** | 0.274 | 0.017 | 16.118 | < 0.0001 |

## Conclusions

The table below shows the impact of each item of the model on the urban planning system in brief. Significant cases are marked in yellow.

| | | | Estimate | S.E. | C.R. | P-value |
|---|---|---|---|---|---|---|
| nez | ---> | **Noise Pollution** | 0.11 | 0.027 | 4.039 | < 0.0001 |
| nez | ---> | **Smell** | 0.102 | 0.025 | 4.166 | < 0.0001 |

Deficiencies of macroeconomic policies and centralization in many areas, especially in economic areas, management weakness, especially urban management, have caused to the creation of unequal fields in cities. Since the amount of city's development is considered as the main benchmark of the sustainable and balanced development, thus, by correction and promotion of the urban management system will become closer to this purpose. To do so, it requires division of planners' duties in different levels of management, including national, regional and local, and on the other hand it need participation and cooperation all forces that are involved in the urban life. On the other hand, with decentralization and transfer of the power and authority of planning and decision making from the central government to the local officials and subsidiary units of the government, semi-independent public companies and executive officials, a long step towards the improvement of the management system can be taken. Indeed, it is from this way that planning methods adapt with real needs and facilities in each location and planning trends coordinate with executive trends.

## REFERENCES


- Faraji mullaei, Amin, Azimi, Azadeh, Ziyari, Keramatollah (2010), analysis of dimensions of life's quality in urban areas of Iran, Journal of Urban Planning and Research, year 1, vol. 1, Fall 2010.
- Qalibaf, Mohammad-Baqer, Rostayil, Mojtaba (2011), evaluating the quality of urban life (case study: Yaftabad district of Tehran), Quarterly of Geography, New Era, year 9, Issue 31, Winter 2011.
- Maleki, Ladan, Habibi, Mitra (2011), evaluating the environment's quality in urban neighborhoods, Journal of Architecture and Urbanism, Issue 7, fall and winter 2011.
- Ghaffari Nasab, Esfandiyar (2012), the role of active citizenship in improving the quality of urban life, Quarterly of Urban Studies, year 2, N. 2, spring 2012, pp. 139-162.
- Vesali, Saeed, Tavakol, Mohammad Mehdi (2012), investigating the effect of social assets on the life's quality in the city of Tehran, Quarterly of Urban Studies, vol. II, Issue II, spring 2012, pp. 139-162.
- Bahraini, Hussein (1998), Urban Design Process, Tehran University.
- Bahrain, Hussein, Tabibiyan, Manoochehr, a model for the evaluation of the quality of urban environment, Journal of Ecology, vol. 24, Issue 21, 1998.
- Brand Ferry, Hilder (2004), urban design as a more sustainable form, translated by Hussein Bahraini, Tehran: Processing and Urban Planning Corporation.
- Orang, Malahat (2007), measuring environment's quality in after disaster restorations (case study: public spaces of Bam city), Master dissertation at Urbanism, Tarbiat Modares University.

- Shamaei, Ali, Pourahmad, Ahmad (2005), improvement and urban renewal from the perspective of geography, Tehran University.
- Haji Nejad, Ali; Rafieian, Mojtaba; Zamani, Hussein (2010), investigating influential individual variables on the citizens' satisfaction from the quality of the life's environment (case study: comparing the old and new contexts of Shiraz city), Journal of Geography and Development, Issue 17, pp. 63-82.
- Babcock, Richard F. Larson, Wendy U. 1990. Special Districts: The Ultimate in Neighborhood Zoning, Lincoln Institute of land policy, Cambridge, M.A.
- Chiras, Dan. Wann, Dave. 2003. Superbia! 31 ways to create sustainable neighborhoods. New Society Publishers. Canada.
- Novak, Peter (1997). How to Provide Good Cities for Children and Youth. 20Thmaking Livable Conference Cities. New Mexico, (http://www.Livablecities.org/content/making-cities-Livable-table-contents).
- Massam, B. H. (2002), "Quality of life: Public planning and private living", Progress in Planning, 58:141-227.
- Barton, Hugh. Grant, Marcus. Guise, Richard (2003). Shaping Neighborhoods: A Guide for Health, Stability and Vitality. Spon Press. New York.
- Van Poll, R. (1997), "The Perceived Quality of the Urban Residential Environment: A Multi-attribute Evaluation".