

Investigating Sustainable Neighborhood Development in Jahanshahr

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Abstract—Nowadays, access to sustainable development in cities is assumed as one of the most important goals of urban managers. In the meanwhile, neighborhood as the smallest unit of urban spatial organization has a substantial effect on urban sustainability. Hence, attention to and focus on this subject is highly important in urban development plans. The objective of this study is evaluation of the status of Jahanshahr Neighborhood in Karaj city based on sustainable neighborhood development indicators. This research has been applied based on documentary method and field surveys. Also, evaluating of Jahanshahr Neighborhood of Karaj shows that it has a high level in sustainability in physical and economical dimension while a low level in cultural and social dimension. For this purpose, this neighborhood as a semi-sustainable neighborhood must take measures for development of collective spaces and efficiency of utilizing the public neighborhood spaces via collaboration of citizens and officials.

Keywords—Neighborhood, Sustainable Development, Sustainable Neighborhood Development, Jahanshahr Neighborhood.

I. INTRODUCTION

UPON promotion of immigration from villages and urbanism trend, gradually the cities accepted residents that had different and sometimes conflicted social, cultural and economical origins. Hence, coexistence of citizens with each other providing to the least contradictions and conflicts, required the strategies and spatial and activity separations despite of providing social interactions. Urban neighborhoods were incorporated as one of appropriate responses according to this necessity.

Although the neighborhoods have various limits and details, but however are assumed as the smallest integrated civil units that include all urban characteristics. Hence, urban neighborhoods as a tool for planning and management of urban affairs particularly nowadays and upon promotion of quantitative dimensions of the city are significantly important. Establishment of institutional capacities, reinforcement of local communities, development of strategic-collaborative management, mobilization of human resources and decentralization all result in urban management and planning [1].

Nowadays and on the eve of third millennium, the countries pioneer in all physical, social, economical, managerial,

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cultural and collaborative aspects have established urban development planning based on neighborhoods, whilst in Iran contrary to the rich tradition of urban development within the recent century, the texture of existing neighborhoods for construction of streets, riding highways, residential apartments, commercial and office towers etc. has been destroyed. But, especially within last decade upon propounding the sustainable development topics and understanding the importance of urban neighborhoods by the officials and citizens, “neighborhood-orientation” in Iranian cities has been taken into notice seriously.

Hence, currently applying the theoretical researches is necessary for familiarity with various definitions of neighborhood and sustainable neighborhood based on the different academic viewpoints and local conditions as a basis for executive and practical activities. This paper is an attempt in this relation, therein concept of sustainable neighborhood development and its importance is analyzed; moreover relative indicators have been analyzed in a case study “Jahanshahr Neighborhood” in Karaj city. The research method in this article is qualitative and documentary analysis for investigating the basic concepts and field survey and interview for evaluation of case study (Jahanshahr Neighborhood in Karaj) have been applied.

II. CONCEPT OF NEIGHBORHOOD AND ITS CHARACTERISTICS

The neighborhood is one of concepts that have been analyzed by different experts and specialists from various aspects and each one chosen specific aspects or elements in their definitions. It caused plenty of them explicitly mention to dispersal of ideas. “Probably, no word has involved the urban developers and sociologists in the turbulence and ambiguity (meaningless) to the extent of community and neighborhood.”

[2] Some neighborhood definitions are explained as below:

- Lynch defined the neighborhood as “a part of the city that at least has a middle or large size and includes two dimensions so that the observer feels has entered therein. Its elements due to common characteristics are completely recognizable so that the neighborhoods image may be ever distinguished from their inner part and these characteristics are observed throughout the neighborhood” [3].
- Cooke believes that: “Neighborhood is a space that an important part of citizens’ job and consumption are occurred therein. Neighborhood is an important foundation for extensive familiarity with people and their social preparation for activity in the cultural, economical

contexts and social life. Therefore, neighborhood is an institution that allows the people to achieve the capability of initial activity for collective interaction” [4].

- Le Corbusier assumes the neighborhood as a welfare-health mean that protects its residents against harms and damages of urban life [5].
- Rapaport defines the neighborhood as identity basis and signifying the urban places. He was the first person that described the neighborhood as a tool that citizens can recover their identity by means of which [6].
- Mumford assumes the neighborhood as a strategy for promotion of citizens’ quality of life. As his viewpoint, dealing with neighborhood is the only course of action for solving the problems of metropolises. He propounds the full independence and self-efficiency of neighborhood and believes that the neighborhood must meet the daily needs of residents [5].
- Thrift stated that the neighborhoods structuralized the people’s life paths at the time and place and affected the life paths and assumed as a factor for interaction between people, facilitator of activity structure in the routine life and essential position in socialization trend [4].
- In Iran, the neighborhood is defined as framework of residence and employment of 700-1250 households (3500-6250 peoples) with pedestrian access radius fluctuation range of 4-5 min. In this definition, the neighborhood includes the main elements that are determinant in its formation. These elements form the neighborhood structure in two levels including indicator elements (such as primary school and mosque) and distributive elements (such as daily and weekly commercial centers, neighborhood parks, sport places and health centers) [7].
- The neighborhood is a distinguishable part of an urban area, an area of mixed land-uses that are connected to city structure. American Planning Association (1998) has defined a neighborhood as a diverse dynamic socioeconomic existence with unique characteristics that are understood by residents of a neighborhood as well as the community [8].
- Neighborhood may be defined in terms of different aspects. For instance, the neighborhoods are defined administratively by wall, route or determined or specified borders; socially by perception of local residents; functionally by local services contexts; environmentally by traffic specifications, quality and security and ultimately aesthetically by specified characteristics or development age and life [9].
- Neighborhood in state division law has been defined as a collection of residential and service buildings that its residents assume themselves as the inhabitant of that neighborhood in regard to social texture. Any neighborhood consists of buildings blocks that are separated from each other by communication network and neighborhoods’ boundary is subject to municipality divisions [10].

- According to traditional viewpoint, the neighborhood is assumed as a self-efficient unit, informal and lively mutual interaction space, identity resource of people and focuses on the unique role of neighborhood for keeping the social integration. In return, the modern approach focuses on neighborhood in relation to sustainable development of society. In this approach, establishment of neighborhood in finite size is not contrary to the metropolis. Principally, the new neighborhood-orientation has been considered with the purpose of reducing and declining the issues and problems arising out of metropolitan damages. In the modern attitude to the neighborhood, urban design is provided for reaching to sustainable society and seeks to improve the traditional attitudes and social life styles [11].

Common points in definitions of neighborhood are: interrelationship and social networks among residents, common values and interests, location within an area with specified geographical or mental borders, relatedness to an interconnected community and some services required for residents. On the other side, although in some cases, boundaries have been determined for the neighborhood but there is almost consensus on, particularly nowadays that perceptual and intellectual factors are stronger than quantitative and objective dimensions in the definition of neighborhood. In general, for presentation of relatively general definition of neighborhood, it may be assumed as an urban area that has an almost social or economic homogenous fabric and supply daily services required by the residents inside this area and its limit is mostly dependent to the average intellectual perception of residents.

In Iran, according to some experts viewpoints and due to historical conditions of this land, identity of people has not been defined in communities such as neighborhood, but is defined in regard to kinship and familial (by blood or marriage) and religious ties. In this definition, the individual doesn’t mean a citizen holding rights and belonging to a community, therefore in decision-making conditions and in practice, the judgments are expressed based on priorities and interests that are founded on kinship, tribal and ethnic identity and not on relatedness and membership in a geographical area as city, local community etc. Consequence of such action and attitude is invalidity of public area. According to this reality that during the history, Iranian citizens more than feeling relatedness to the place have relied on social relations and rupture of social structure of contemporary neighborhoods due to economic factor conversion to the dominant factor of neighborhood foundation, living in the current neighborhoods is along with a type of non-identity and confusion. Moreover, physical structure of neighborhoods due to wrong, incomplete and not derived from western modernism excludes the required capability for incorporating the solidarity and social tie between residents. Although, peoples’ life beside each other necessarily doesn’t mean mutual interactions between them, low communications may be applicable between neighbors in a neighborhood. Hence, nature of mutual communications

between people results in formation of social networks and often is taken into notice as the most important aspect of a neighborhood [2].

Therefore, it is concluded in general although today there is no united definition agreed by the public on the concept of "neighborhood", but yet neighborhoods are known in all world countries as the dynamic and homogenous urban units susceptible for social interactions. In other word, currently the major concept of neighborhood is establishment of individual and social identity for citizens that subsequently will result in sense of belonging to place.

III. SUSTAINABLE NEIGHBORHOOD DEVELOPMENT, ITS FEATURES AND PRINCIPLES

The record of considering to the concept of sustainability in the world in its modern meaning refers to the three decades ago and ends of 1970. "For the first time, the word of sustainability used in the "development restrictions" book in 1972. Upon report of world committee on environment and development under title of our common future in 1987, literature domain of this word was extended." [12] Finally, in the earth summit conference of united nations organization in 1992 in Rio de Janeiro, Brazil, the topic of sustainable development was pervaded allover the world. Since that time, the importance of this subject has been increased day to day and the necessity of coordinating any development plans with it emphasized more than ever.

It has been presented different definitions for the term of sustainable development. One of the most perfect and reliable terms of which have been expressed by United Nations in 1987 is: "Development which meets the needs of present without compromising the ability of future generation to meet their own needs." [13] In addition, other related important definitions are as follows:

- Sustainable development including concurrent pursuit of economic prosperity, environmental quality and social justice. The societies seeking sustainability require to pursuing the changes of human and social values constantly over time. Modern concepts such as responsible consumerism, environmental rights and intergenerational justice require being pursued [14].
- Sustainable Development is positive change which does not undermine the environment or social systems on which we depend. It requires a coordinated approach to planning and policy making that involves public participation. Its success depends upon widespread understanding of the critical relationship between people and their environment and the will to make to necessary changes. [15]
- The sustainability may be defined as the men responsibility for continuing a qualitative and persistent life for present and future generations. In other words, the people are living comfort in the world and in a clean and healthy and lovely environment. [16]

Considering the above descriptions, it is specified that the concept of sustainable development is not one-dimensional

rather comprehensive and multidimensional, and has a special attention to the social, economical and cultural contexts as well as environmental and physical aspects. Thus, perfect execution of sustainable development patterns requires essential changes in the national and international policies. Generally, sustainable development may be deemed simply a kind of development that doesn't destroy the environment and existing natural capital and doesn't decrease the quality of men life in the future. Furthermore, it seems that any efforts for defining the sustainable development shall be flexible and considers the triple cases of "the concept of relationship between society, economics and environment, justice for utilizing the resources and opportunities and living with current earth limitations" [12].

Although the principles and objectives of sustainable development are stabilized but the methods for achieving them in various scales are different to each other. On the other hand, it is obvious that whatever the physical vastness of an area get further, the extent of its effectiveness on the human society, geographical resources and elements around which will increase equally. Therefore, design and organization of cities as the greatest and most complex human artificial phenomena towards sustainability principles have great importance and may affect other downstream levels.

For every various levels; city, neighborhood, and building, it has been presented strategies for achieving the sustainable development. Neighborhood development explains a process based on which the capital that society potentially is able to collect and use it, is increased to improve the quality of life of neighborhood people. Neighborhood development includes all issues related to housing, economical development, citizens participation, social welfare, feeling of security, promotion of training and environmental issues and there is an interrelationship between all these elements, i.e. the main subject in neighborhood development is referred to neighborhood communities. Peter Hall defined the neighborhood development as planning for development of city in smaller and limiter level than past [17].

The sustainability concept and dimensions in neighborhood scale has not determined absolutely and no city may sustain without the around environmental resources. The neighborhood as the smallest urban cell will not reach to the sustainability regardless of cultural and social principles and fundamentals and inner elements of neighborhood. Sustainable neighborhood development is manifested if all people and its residents benefit from equal rights and facilities and undertake the responsibility of activities and decision makings that affect their living environment [4]. In fact, sustainable neighborhood development includes the capability of small local communities for operation and use of natural, human and ecological resources, so that all neighborhood members or communities have an appropriate level in health and hygiene, desirable life, security, integration of environment and dynamic human and economic activity at present and future [18]. The main purpose of sustainable neighborhood development is improvement of spatial structure and strengthening the local identity via social institutions for

increasing the social capitals. Main elements of sustainable neighborhood development is increasing the social resource, minimizing the natural resources operation, efficiency of utilizing urban space by citizens and officials.

Sustainable neighborhood development demonstrates that urban neighborhoods have an enormous social and cultural outlook that only recreation of citizenship culture and attention to neighborhoods as the social ground of residents will lead to sustainable development. Sustainable neighborhood is a self-sufficient neighborhood that provides the opportunity of collective sensations, intimate relationships and a happy and vivacious residence for its residents. Sustainable neighborhood has its own identity and incorporates the sense of belonging in the residents. Residents of this neighborhood benefit from high quality of life, health and welfare. Sustainable neighborhood is not assumed as threat against natural ground of residential environment. In this neighborhood, facilitations dispersal has been planned and designed so that in addition to efficient operation of resources provides the right of selection and justly operation of environment to the residents. Plenty of cities and metropolises that founded and developed for economic growth are assumed nowadays as great environmental threats.

In consideration of the foregoing, to confront the problematic growth of cities, the different planning approaches seek for realistic solution for urban development. Considering the effect of neighborhoods planning on leading and management of big cities, an increasing attention to neighborhood-orientation is observed another time. Sustainability as a new urban development approach is connected to the concept of neighborhood explicitly and effectively. To access a sustainable society, a serious definition must be presented for social values and citizenship needs. Sustainable development is a cultural ideal, because seeks for improving the life attitude and styles [4].

A sustainable neighborhood includes characteristics and elements that should have meanwhile continuous and close communications with each other. These four characteristics (Fig. 1) are as follows: [19]

- A hierarchy of open space: neighbourhood central square, pocket park with play, the local square, toddlers' greens, canal corridor
- A vibrant mix of uses: mixed working areas, higher density housing and some working, predominantly residential areas
- Integrated transport systems: tram/light rail or main bus route, local bus route, neighborhood street, local distributor, access road
- Provide good local facilities: shops, primary school, places of worship, community facilities such as pub, creche etc.

Urban management in neighborhood includes a wide organization consisted of effective and relative formal and informal elements and components in social, economical and physical dimensions of neighborhood life with the purpose of administrating, controlling and leading the comprehensive and sustainable development of neighborhood. But, most of urban

experts concluded that this management will not be successful without cooperation and collaboration of people [20].

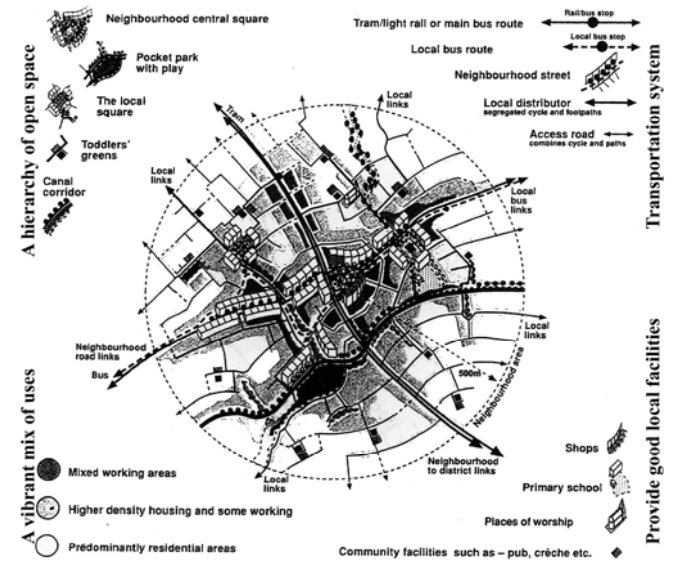


Fig. 1 Specifications and elements of a sustainable neighborhood [19]

But commonly in Iran, public demands are not applicable on urban planning and management and the planners and designers often make decision for them regardless of peoples' opinions. Although the experts have more power in expertise affairs, but it is a reality that people and residents of a neighborhood more than others are aware of strengths and weaknesses of their neighborhood [21]. The major goals of neighborhood planning and management and their achievement tools are provided briefly in Table I.

TABLE I
 MAJOR GOALS OF NEIGHBORHOOD PLANNING AND MANAGEMENT

Goals	Goals achievement tools
Increasing the neighborhood capacity	Upraising the capacity and attention to individual skills of people
Neighborhood empowerment	
Neighborhood readiness	Training the local communities
Accumulation of social capital	
Management from lower levels	Emphasis and development of citizenship ruling and supervision
Citizenship collaboration	Making decision based on consensus
Property-basis approach and achievement to sustainable development in different dimensions	Planning and design based on bioregional principles

A lot of principles and criteria may be raised and analyzed for sustainable development in neighborhood scale, according to theories and experiences existing in global scale. These principles and criteria that are classified in four major groups including social-cultural, physical, environmental and economical are provided in Table II, briefly.

TABLE II
NEIGHBORHOOD SUSTAINABILITY CRITERIA AND INDEXES

Principles and criteria		Definition and index
Social-cultural dimension	Liveliness	Suitable public spaces through their attraction and effectiveness on the human mind may provide the neighborhood liveliness. Recreational spaces such as cinema and theater, sport places, museums, cultural centers, restaurants, libraries, space for walking and cycling and area for children playing all upraise the neighborhood liveliness
	Identity	It means "meaning in neighborhood" that is directly connected to its spatial shape and quality and has intensive independence to the culture. landmark buildings and elements and oldness of neighborhood
	Security	Identification of stranger in neighborhood, traffic of children and women at night, lack of crime in neighborhood, lack of dark and defenseless space, lack of traffic accident-prone area and security of pedestrian
Physical dimension	Dynamism and adaption	Continuity of neighborhood residents' life since past so far
	Diversity	The diversity principle may be assumed as principles and criteria of efficiency, liveliness and sustainability of neighborhood. Upon observing this principle, physical conditions and neighborhood spaces will be so that facing the new needs are universal and respond the varied needs [20]. Diversity in dwelling selection based on income and cultural structure.
	Legibility	Understandable structure of local and urban spaces. For this purpose, the landmarks may be assumed as important elements in neighborhood legibility with the purpose of orientation and leading. Finding the address, identification of neighborhood border by the residents.
Access	Access	Access in neighborhood is not only important for traffic, but it may be assumed as a space with diverse performances. Accesses may be a space for enjoying from movement process. For this purpose, the walkways have different functions in relation to social interactions, market and recreation. Design and construction principles and criteria of access networks: easy access, security, social environment, time reduction, and displacement cost, adequate parking space, balance between pedestrian, cycling and other movements
Environmental dimension	Density and capacity tolerable by the neighborhood	Population and building density, neighborhood ability for rendering services, capacity of infrastructural installations and access network, perceptual density of neighborhood
	Cleaning and waste	Satisfaction with garbage collection, rubbish containers in streets and cleaning the water canals
	Air, audio and visual pollution	Feeling of calmness in neighborhood, beauty of buildings, suitable urban furniture
Economical dimension	Employment	Rate of employed population in neighborhood, employment plans in neighborhood

IV. JAHANSHAHR NEIGHBORHOOD OF KARAJ AND SUSTAINABLE NEIGHBORHOOD DEVELOPMENT INDICATORS

Karaj city has been located within 20km at the west of Tehran-capital of Iran-. Particularly within three recent decades, Karaj as the most important city around the capital has been developed considerably so that currently population of this city is more than 1300000 peoples and assumed as the

fifth populous city of Iran after Tehran, Mashhad, Esfahan and Tabriz. Karaj is center of Alborz Province and after Tehran is the greatest immigrant-accepting city in Iran [21].

Urban development of Karaj has no integrated design including dispersed towns such as Jahanshahr, Dehghan Vila, Golshahr, Kouye Banafsheh, Fardis, Gohardasht and Azimieh with preliminary design in checkered form that upon gradual expansion and joining these districts, this city has found its current form.

Jahanshahr is one of neighborhoods located in district one at the north of Karaj. From northwards, it is limited to Hajiabad, westward to north Kouye Karmandan, southward limited to Chaharsad Dastgah neighborhood and eastwards limited to north Taleghani Boulevard. (Fig. 2) Jahanshahr name is derived from "Jahan" wife of Mohammad Sadegh Fateh, promoter of Jahanshahr Neighborhood. He was one of the most well-known people that had a lot of gardens in Jahanshahr. In past, Jahanshahr had a lot of gardens that within 50 recent years countless constructions were made therein and plenty of these gardens have been exposed to destruction [22]. In continue, according to sustainable neighborhood development criteria as per Table II, these indicators in Jahanshahr Neighborhood of Karaj are analyzed briefly.



Fig. 2 Location of Jahanshahr neighborhood

A. Identity and liveliness

Clarity in perception of neighborhood and easy familiarity and integration between its elements and other events and places may be deemed as neighborhood identity. An identified neighborhood is a neighborhood that is distinguishable from other places and neighborhoods [3]. One of the most important subjects related to identity and liveliness of Jahanshahr Neighborhood as the viewpoint of residents is awareness of reasons for choosing the neighborhood for residence under different conditions.

Most of neighborhood residents have selected Jahanshahr due to its long background and calmness and peace, means that not only its oldness resulted in no population evacuation but also it is assumed as the important and first factor in neighborhood identity for residence more than 30 years of residents. On the other side, due to infinite recent constructions, quantity of residents who displaced from other

neighborhoods to this neighborhood is highly. Even, it may be equal to the population of old people residing in this neighborhood, but due to expensive land price of this neighborhood, highest per capita of green space more than total neighborhoods in Karaj and its frequent facilities, these people are interesting in long-term residence in this neighborhood. Accordingly, Jahanshahr Neighborhood after 50 years establishment has been successful for responding the identity and comfort principle. Most of people residing in Jahanshahr know it as a lively neighborhood due to following reasons:

- Culture of residents;
- Transregional landmarks such as Rasoul-e- Akram Mosque, Mostafa Khomeini and Bentolhoda Schools, Madani-Kasra Hospitals, eye clinic, Lotus Saloon, Mahan daily market;
- Memorable places including local squares such as Helal-e-Ahmar, Golha, etc., Mahan-Jomhuri Blvd., shopping centers in Jomhuri Blvd.;
- Important of all, recreational and sport gardens such as Fateh (Fig. 3).



Fig. 3 Walkways of Jahanshahr residents in Fateh Garden

B. Neighborhood Density

One of subjects that is directly connected to density and has direct effects on quality of life in neighborhood scale is tolerable capacity. Neighborhood's tolerable capacity evaluation indicators may be classified and provided in three groups; physical development capacity of neighborhood, neighborhood access capacity, energy resources capacity and natural characteristics of neighborhood [11].

What is raised as serious warning and concern in Jahanshahr Neighborhood is tolerable capacity of neighborhood. This neighborhood has reached to the threshold of population and construction capacities and has no capacity for physical development (Fig. 4). If continuous monitoring as an important principle is ignored, principles and criteria that have guaranteed the neighborhood sustainability will be eliminated. Due to increasing the population, main streets of neighborhood have a high traffic volume in some day hours, but unfortunately urban management authorities have destroyed the gardens and widened the streets to solve this problem. It caused destruction of resources capacity and natural characteristics of neighborhood.



Fig. 4 High rise buildings in Jahanshahr Neighborhood

C. Security

The security is a serious problem and concern in residential neighborhoods. crime, awareness of stranger's entry and exit in/from neighborhood (so called traditional neighborhoods in Iran have been "Gharib Gaz" -measuring the strangers-), security for residents at the end hours of night, determination of traffic accident-prone places all are assumed as security factors. Despite of gardens and quiet places in Jahanshahr as a luxurious neighborhood in Karaj, no ground has been susceptible for crime since past. But, today due to entry of nonlocal people, particularly theft is seen in the neighborhood. At the end hours of night due to lack of control on entry and exit of local and nonlocal people, there is no considerable security particularly for the women. The traffic accident-prone areas and places of neighborhood are majorly located in Jomhuri Boulevard and pedestrians cross through boulevard width due to shopping centers, garden and tennis fields. No traffic security is provided for the pedestrians in main and secondary junctions. It is recommended to post the route guideboards, establish bridge or pedestrian underpass; construction, improvement of streets, prevention of cases causing noise and bother for residents, supply of further light in non-defensible spaces are suggested also for better management in this field.

D. Legibility

Indicator elements and landmarks in neighborhood are assumed as important factors of neighborhood legibility that facilitate finding the addresses and cause familiarity with Jahanshahr neighborhood borders by the residents (Fig. 5). Naming the streets, posting name tablets, numbering the units, construction of memorials in neighborhood are recommended for better management in this field.



Fig. 5 Fateh Garden as one of the most important landmarks of Jahanshahr Neighborhood

E. Supply of Services

The main point in relation to educational services, hygienic, sport, cultural-religious and commercial areas of Jahanshahr is that this neighborhood since its formation (endowment of lands of this neighborhood by Fateh) has included educational spaces, hospital (Kasra and Madani), Rasoul-e-Akram Mosque and neighborhood center. But, despite of increasing the population, these spaces don't respond anymore and yet same old potential is used for meeting the residents' needs and during these years no further services have been rendered in neighborhood. One of managerial plans at present is establishment of hospital or subspecialty clinic, library, cultural center (newly one of old houses of neighborhood that formerly located at the center of garden and today due to destruction of garden is located beside the main street has been converted to contemporary arts museum), safe playing area for children and increasing the number of bakeries. The only strong potential of neighborhood is referred to its green spaces as suitable places for sport activities.

F. Diversity

Jahanshahr has no frequent diversity in terms of dwelling selection based on income, because the land and property price therein is high. Although, this neighborhood has a relatively sustainable level for providing services to different groups and appropriate local distribution throughout the neighborhood, nonetheless establishment of strategic plan for organizing of neighborhood center is necessary.

G. Access

Jahanshahr has an appropriate level in easy access to neighborhood and urban services and access to public transport vehicles. Due to location of several arterial roads in within the neighborhood as well as startup of metro line in a near future, that one of its main stations is in Sepah Square adjacent to the neighborhood, quality of access to neighborhood has an appropriate status.

In accordance with applied field surveys in Jahanshahr in relation to sustainable neighborhood development criteria for assessment of sustainability status of this neighborhood quantitatively, each one of indicators suggested in Table II has been evaluated based on conclusion of results from questionnaires distributed among 100 residents of Jahanshahr neighborhood. In this assessment that has been applied on

social-cultural, economical, physical and environmental dimensions separately, range of each numerical criterion is 0-4; 0 denotes complete non-sustainability and 4 denotes complete sustainability and other points are placed between these two limits. Maximum point in this evaluation is 100. Summary of this assessment is provided in Table III. As per this table, results obtained from survey and field analysis in social-cultural, physical, environmental and economical dimensions indicate that the neighborhood sustainability rate is 52% and Jahanshahr is assumed as a semi-sustainable neighborhood.

TABLE III
EVALUATION OF SUSTAINABILITY STATUS OF JAHANSHAHR NEIGHBORHOOD BASED ON VIEWPOINT OF RESIDENTS

Criterion	Sub criterion	Jahanshahr Neighborhood					Point
		Completely sustainable	Relatively sustainable	Semi-sustainable	Relatively unsustainable	Completely unsustainable	
		4	3	2	1	0	
Social-cultural dimension	Cooperation of people for administration of neighborhood (collaboration)					*	0
	Trust in institutions				*		1
	Communication with neighbors		*				2
	Awareness of carried out urban plans					*	0
	Residents' sense of belonging to neighborhood				*		1
	Awareness of neighborhood master plan					*	0
	Performance of collaboration council in neighborhood					*	0
	Security in main streets		*				3
Economical dimension	Security in secondary streets			*			2
	Security in public centers		*				3
	Neighborhood ownership type		*				3
	Dwelling cost		*				3
	Employed population rate in neighborhood		*				3
	Basic needs cost			*			2
	Riding access		*				3
	Access to public transport		*				3
Physical dimension	Access to neighborhood gardens	*					4
	Access to health centers	*					4
	Waste disposal procedure			*			2
	Streets lights	*					4
	Streets asphalt					*	0
Environmental dimension	Garbage collection		*				3
	Underwater disposal					*	0
	Neighborhood cleaning			*			2
	Neighborhood beautification	*					4
Total points (out of 100)					52		
Sustainability rate of Jahanshahr Neighborhood					52%		

V. CONCLUSION

Within the recent decades, the importance of planning from "lower to upper levels" and persuading the people to further collaboration, as the main success agents in urban management has been revealed more than ever and developed countries have formulated codified strategies and plans for this purpose. Accordingly, the neighborhood as the smallest urban unit that includes a homogenous spectrum of citizens has been taken into consideration and has been defined as the best scale for applying new concepts of sustainable planning and management. Attention to neighborhoods and small urban communities is due to assuming the neighborhood as a mean for urban management, sustainable development, differentiation and persuasion of social integration [17]. Sustainable neighborhood development attempts to respond the neighborhood needs during rapid changes and variable needs era. In addition, one of important goals of neighborhood management is sustainable neighborhood development [11].

In order to analyze the sustainable neighborhood management criteria and indicators, Jahanshahr Neighborhood of Karaj was evaluated. Removal of problems related to Karaj neighborhoods may result in more solidarity of neighborhood relations and can create an identified pattern for new neighborhoods. While, the rapid growth of Karaj along with

weakness of management has deprived plenty of neighborhoods of this city from sustainability, quality of urban management may be effective thereon; a management that can provide the appropriate context and environment for easy and effective life of citizens proportional to their characteristics as well as related society.

About two decades before, Jahanshahr Neighborhood was a completely sustainable neighborhood and currently this neighborhood despite of excessive population from other regions of Karaj within recent years, or sometimes construction of villa by Tehrani residents due to nearness of Alborz province to Tehran (because of old fame of gardens and facilities and high local level of Jahanshahr), still has a relative sustainability. Increasing the population, inattention of officials and urban designers, motto nature of sustainable neighborhood concept in executive plans, weakness in management by responsible organizations, centralization of urban planning system and gap between urban managers and experts and common people of neighborhood may be referred to as the main reasons of this sustainability decrease.

Considering the above mentioned indicators of a sustainable neighborhood and results obtained from evaluation of Jahanshahr, it is concluded that this neighborhood has high level of sustainability in physical and economical dimensions, whilst in cultural-social dimension, its sustainability is low. It

means although Jahanshahr has a relatively acceptable level in access to riding routes and public transport systems, benefitting from health services and wide area of gardens and green spaces, but has no considerable level in residents' collaboration and informing about neighborhood development plans as well as residents' sense of belonging. In the meantime, reduction of residents' sense of belonging to Jahanshahr neighborhood seems to be majorly due to replacement of new wealthy residents to the original old residents of this neighborhood that upon increasing their wealth leave this neighborhood toward predominantly affluent neighborhoods in Tehran or Karaj. Ultimately, in order to upraise the sustainability level of Jahanshahr neighborhood, focus on social and cultural issues of neighborhood such as sense of belonging and social interactions and further collaboration of residents must be taken into account more than physical modifications.

REFERENCES

- [1] M. Abdollahi, M. Sarrafi and J. Tavakkolinia, "Theoretical investigating of neighborhood definition and redefining it by focus on urban neighborhood conditions of Iran", *Human geography researches*, no. 27, pp. 81-88, 2010.
- [2] KH. Hajipour, "Planning based on neighborhood; an effective tool in sustainable urban management", *Honarhaieeziba Journal*, no. 26, pp. 38-45, 2008.
- [3] K. Lynch. *The Image of the City*. Cambridge and London: The M.I.T. Press, 1960, p. 91 & 167.
- [4] M. Rafeian, M. Khademi and R. Alipour, "Sustainable neighborhood urban neighborhood development strategies", *Tarh&Namad Journal*, no.3, pp. 41-52, 2011.
- [5] A. Saeidnia, "Urban development plans; Problems & strategies", *Shahrdariha Journal*, no.8, pp. 6-10, 1999.
- [6] A. Rapoport, *Human Aspects of Urban Form: Towards a Man-Environment Approach to Urban Form and Design*. NewYork: Pergamon Press, 1997, p. 85.
- [7] S. M. Habibi, S. Masaeli, *Urban land use standards*. Tehran: International land & settlement organization, 1999, p.13.
- [8] R. Cowan. *The Dictionary of Urbanism*, London: Streetwise Press Ltd, 2005, pp. 256-257.
- [9] H. Barton, R. Guise and M. Grant, *Shaping Neighbourhoods: A guide for health, sustainability & vitality*, London: Spon Press, 2003, p. 16.
- [10] T. HeidarniaDelkhosh, "Necessity and process of forming urban neighborhoods", *Shahrdariha Journal*, no.35, pp. 68-73, 2001.
- [11] GH. Kazemian, A. Meshkini and SH. Biglari, "Evaluation of urban management function in neighborhood sustainability of district 2 of municipality of region 4; Majidieh&Shamsabad&Kalad neighborhoods", *Applied researches of geography Science*, no. 21, pp. 5-15, 2011.
- [12] S.M., Mofidi. *An introduction to sustainable urban development and design*, Tehran: Iran university of science and technology (IUST), 2005.
- [13] World Commission on Environment and Development, *Our Common Future*, London: Oxford University Press, 1987, p. 8.
- [14] <http://www.wbcsd.ch/> (World Business Council on Sustainable Development), 16/01/2005.
- [15] <http://www.hamilton.ca/NR/rdonlyres/17F43F60-27F5-456C-990C-7620A4035DDD/0/TheVision1992.pdf>, 02/03/2005.
- [16] <http://avenue.org/Gov/TJPDC/sustain.html>, 06/11/2004.
- [17] B. Khakpour, E. Mafi and A. Bavanpouri, "The role of social capital in neighborhood sustainable development", *Geography and district development Journal*, no.12, pp. 60-67, 2009.
- [18] E. Kline, *Sustainable community indicator*, New York: New Society publishers, 1997, p. 4.
- [19] D. Rogerf, *Toward an urban renaissance*, London, 1999, p. 67.
- [20] S. M. Wheeler, *Planning for Sustainability*, London: Routledge, 2004, p. 199.
- [21] <http://karaj.ir/HomePage.aspx?TabID=6882&Site=DouranPortal&Lang=fa-IR>, 02/08/2013.
- [22] <http://www.ecnn.ir/news.aspx?id=3852>, 22/01/2014.