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An Analytical Study on Boundaries of Administrative-defined Neighborhoods Using Residents' Cognitive Maps

(Case study: Mashhad Municipality Neighborhoods, Iran)

[1]Amidoleslam Saghatoleslami, [2]Seyedeh Negar Hosseinian, [3]Maryam Behnami Fard

[1]Assistant Professor, Department of urban planning, Faculty of Art and Architecture, Islamic Azad University, Mashhad Branch.
[2]Ph.D. Candidate of Urban & Regional Planning, University Technology Malaysia.
[3]M. Sc. In Urban Design, Faculty of Art and Architecture, Islamic Azad University, Mashhad Branch.

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ABSTRACT: The neighborhood has had a long history in Iranian urbanization. Since urban plans were introduced by the authorities to shape urban development in Iran half a century ago, the concept of Iranian traditional neighborhood has been neglected gradually. The concept of neighborhood has not found the appropriate status in urban design and planning yet. One of the main reasons is that academics, professional urban planners, designers and managers use different definition and no consensus exists on definition of neighborhood. The aim of research is to compare residents' perception of their neighborhood boundaries with boundaries of administrative-defined Neighborhoods which municipalities consider. The main hypothesis of the research is fundamental difference between these two views: top- down view from experts and urban managers who see the neighborhood as a spatial unit for city organizing and bottom- up view from residents who consider the neighborhood as the place of their social life. The Research methodology has been done base on the survey method and an analytical approach has been applied. The case study is located in Mashhad city in Iran. Four municipality-defined neighborhoods were selected in various urban fabrics of the city. Findings indicate that residents' definition of their neighborhood was influenced by socio-spatial factors and interaction of these on each other. There is a substantial and fundamental difference between residents' definition of neighborhood and municipality-defined neighborhood. Finally, this study proposes recommendations for the better definition of administrative neighborhoods in Iran.

Keywords: *Neighborhood, Residents' perception, Cognitive maps, Administrative-defined Neighborhoods.*

INTRODUCTION

In fulfilling the community requirements for creating comfortable living environment, the spatial distribution of cities to social and physical units is used and the neighborhood is one kind of these urban subdivisions. The neighborhood has had a long history in the world urbanization and a feature of urban life from the earliest cities to the present (Mumford, 1954,256; Mumford, 1961; Bacon, 1975; Smith, 2010,138). It is considered an important type of location unit for urban and suburban residents and a key concept in urban development (Keller, 1968; Suttles, 1972; Alexander et al., 1977; Madnipour, 2001,172; Kearns & Parkinson, 2001,2103).

Reviewing the history of Iranian urbanization has shown that the traditional neighborhood has had a main role in the urban structure and the social life of the citizens in Iranian historical cities. Iranian urban living in city has existed in three levels of home, neighborhood and city; thus, traditional neighborhoods influenced the process of shaping historical cities. (Falamaki,1995,132 ; Naghizadeh & Goodarzisoroush, 2011).

Various factors like cultural, social, economic, historical, geographical, climatic and defensive aspects could lead to create neighborhood with a distinct geographical territory and certain boundaries in a city (Tovasoli, 1997, 8; Soltanzadeh, 1988; Habibi, 2000, 48).

In the first Pahlavi period, the extensive physical interventions in historical fabrics of cities caused extensive changes in the physical and social structure of historical neighborhoods in Iran. Since urban plans were introduced by the authorities to shape urban development in Iran half a century ago, the pattern, structure and principles of the traditional Iranian neighborhood as a socio-spatial phenomenon has been neglected (Saghatoleslami & Aminzade, 2013, 34). Allowing ease of automobile movement in residential fabrics caused the

*Corresponding Author Emaile: *saghatoleslami@mshdiau.ac.ir*

destruction of the physical space of historical neighborhoods especially neighborhood centers. Many neighborhood entrances undermined the neighborhood territory in urban fabrics. Changes in the physical structure of neighborhoods caused change of the concentrated neighborhood division into decentralized unites; Moreover, various networks of transient social relationship led to be replaced with intensive social solidarity.

At present, one of the main problems which relate to neighborhoods is lack of an agreement and consensus among the professions, designers and planners, urban managers and citizen about the definition of neighborhood and its characteristics. Institutions such as municipalities intend to divide cities into districts and neighborhoods in order to give better and proper services to the residents; but in more cases, these divisions don't match with divisions of urban development plans or divisions of other institutions who involve in urban affairs. These institutions define conventional administrative neighborhood which is different from the residents-defined neighborhood. This problem is the important factor which causes creation of various views in neighborhood definition.

On the other hand, the spatial behavior of people in the urban environment is influenced by subjective images and residents' perception of urban environment (Downs & Stea, 1973; Gould & White, 1974).Use of neighborhood facilities and services is based on this kind of perception. Residents behave in their neighborhood spaces which are different from urban planners and urban managers' point of view. This view is a phenomenological approach to neighborhood definition and the present study is focused on this issue.

There are few studies which have been done on residents ' cognitive maps of neighborhood and their definition of neighborhood in Iran. Studies in western countries show residents' definition of neighborhood is different from administrative neighborhood that is defined by the various urban institutions from the neighborhood (Haney & Knowles, 1978,211; Guest, Lee & Staeheli, 1983; Guest & Lee, 1984,53; Coulton et al., 2001; Campbell et al.,2009,486).Therefore, the necessity of doing present study is great due to the different definitions of neighborhood. This research revises the concept of neighborhood from environmental psychology and urbanism point of view. The main question of research is:

How much consensus do residents have about the physical territory of administrative neighborhood in their perception?

The main hypothesis of the research is a fundamental difference between these two views: top- down view from experts and urban managers who see the neighborhood as a spatial unit for city organizing and bottom- up view from residents who consider the neighborhood as the place of their social life.

The Concept of Neighborhood

There are two main points of view in studies which investigate neighborhood definition:

Neighborhood as a Spatial Unit

In this point of view, neighborhood has comprised various physical elements such as residential units, services, connections and a set of related activities which emerge in different neighborhood spaces. Furthermore, the neighborhood can be defined by specific land uses which can help to recognize the neighborhood boundaries through service spheres making coincident activities. For example, Perry defined neighborhood based on centrality elementary school (Perry,1929). According to this view neighborhood can create a setting for social interactions and neighborhood ties among residents (Forouzande & Motallebi, 2012). Also, the neighborhood is defined due to the connection of one neighborhood with other local communities and service organizations such as neighborhoods which identify and determine their boundaries through police- action zone, parks, public transportation stations, districts undermine the social and cultural services or local management and municipalities (Gallion & Eisner,1958 ; Habibi,1999,32;Lotfi & Koohsari, 2009).

Neighborhood as a Socio-Spatial Unit

In this point of view, the neighborhood is as a local community. The social and spatial- physical attributes play a role in neighborhood definition. This view considers the comprehensive concept of neighborhood in comparison with previous one. The social concept of neighborhood is defined through a set of social interactions and relationships; moreover, the neighborhood is the primary form of social organization which includes persons with common root and history. Social interactions in neighborhood create setting for cooperation, sense of belonging and intimacy. The social attitude of the concept of the neighborhood has exited strongly in the urban history of Iran (Ashraf, 1974,310; Soltanzadeh, 1988; Tavasoli, 1997,8 ; Saghatoleslami, 2013).

Also ,some of the western scholars have paid attention to the social concept of neighborhood in the western urbanization (Keller, 1968; Lee, 1968,241; Alexander et al., 1977; Chaskin, 1995; Rapoport, 2001,148). Nowadays, focusing on the neighborhood planning has presented the important role in local plans in the cities. Also, the neighborhood has the significant status in the urban development in west urbanization. In the other word, the urban neighborhoods are mentioned as the key for urban development. Such an approach is increasingly seen as an essential part of the comprehensive planning process in order to promote the identity of urban environments and increase the people's participation (Hester, 1984; Urban task force, 1999; Madanipor, 2001; Meegan &Mitchell, 2001; Rapaport, 2001; Grant, 2006 ; Rohe & Gates,1985; Rohe, 2009).

The Concept of Cognitive (Mental) Map

A set of related mental images of the environment create one mental model or cognitive map of that environment. A cognitive map is a kind of mental representation from an

environment which reflects an individual perception of a place. It comprises people's knowledge and perception of their environment. Cognitive map creates a connection between the human mind and the physical environment. Also, it is a structure which organizes and keeps the personal information about the environment. In this way, mental maps provide possibility for persons to orient in the environment (Chaskin, 1995; Lang, 1987; Cowan, 2005).

Researchers mentioned that cognitive maps are connected with personal experience. People's cognitive maps of buildings and cities are different in terms of size, content, and precision (Gould & White, 1974; Lang,1987). Nevertheless, there is a collective cognitive map which is common among the group of people. Review of people's cognitive map of city or parts of the city can be performed at different levels and scales such as: (a whole city or a district of a city or an urban neighborhood or various urban spaces in a city) (Lynch,1960; Appleyard, 1976; Schulz,1980).Study of cognitive maps and methodology of cognitive mapping is still in the making.

The Neighborhood Role in Residents' Cognitive Maps

Every day, residents observe neighborhood spaces and interpret them to make cognitive maps in order to connect with functional space of neighborhood. Also, cognitive maps guide residents to choose their movement and their approaches for social interaction.

The construction of neighborhood boundaries is based in part on the degree of emphasis on the defining characteristics of each neighborhood. Especially four dimensions are important principally:

The neighborhood as the place or unit of space within which various activities happen;

The neighborhood as a set of social interactions;

The neighborhood as defined unit by its relationships with institutions activities;

The neighborhood as a symbolic unit by name and recognized identity (Chaskin, 1995).

Residents' cognitive maps may emphasize one dimension over others and basically their perception of neighborhood focuses on only one of these dimensions. In this way, the physical and social spaces play an important role in residents' mental definition of neighborhoods. In the other word, residents may focus on one of these two dimensions in defining their neighborhoods.

Residents who define neighborhood in terms of social relationships are more likely to describe a smaller unit than those considering it as administrative neighborhoods that institutions and organizations define (Lee, 1968). Also, another study showed that people who lived in suburban neighborhoods, perceived their neighborhood's territory bigger than those who lived in neighborhoods of the city center, although both groups of respondents have shown equal detail descriptions of their neighborhoods (Haney& Knowles, 1978); Besides, another study showed that residents who often engage in neighborhood activities, such as social interaction with neighbors and participating in neighborhood club, intend to give a social definition of the neighborhood. Also, residents with small children, long term residents and women tend to define the area of neighborhoods much smaller. On the other hand, the issue on how residents define their neighborhoods and consider which dimensions of neighborhood depend on who they are and what is their social position within urban society (Guest & Lee, 1984, 49; Lee & Campbell,1997).

In another study , four principal factors were introduced that influenced how residents define their neighborhood boundaries: Physical and institutional characteristics of the neighborhood, its class, race, and ethnic composition, perceived criminal threats from within and outside the neighborhood, and symbolic neighborhood identities (Campbell et al., 2009).

In another study, researchers intended to find a method for analyzing information of residents' cognitive maps and introduce some variables that can be applied in studying resident-defined neighborhood (Coulton et al., 2001).

Most of the studies done in western countries mention that, the results of researches can't extend and these studies are in the methodological stage. The study done by Saghatoleslami and Aminzadeh (2009,82) in Iran has revised the resident's perception of administrative neighborhood in urban development plans (detailed plan). Results show the neighborhood that residents perceive is different from the neighborhood that detailed plan recommends. There is no collective perception and agreement among residents in terms of neighborhood features in administrative neighborhood of detailed plan and in addition, residents define more smaller area as their neighborhood.

MATERIALS AND METHODS

The research methodology has been done based on survey method and analytical approach has been applied. Data collection includes questionnaires and attached maps in order to review the residents' perception of their neighborhoods.

Case Study

Mashhad city is the second biggest city in Iran. Mashhad city has a long historical background. Nowadays, Mashhad is 300 square kilometers in area and it has 2.5 million population due to population census in 2006 (The statistical center of Iran, 2006).

Mashhad municipality is divided into 13 zones and 42 districts in order to give services to citizen and management of urban affairs. In recent years, Mashhad municipality has divided each district to the 3-4 administrative neighborhoods ,so, Mashhad city is divided into 154 municipality- based neighborhoods. These neighborhoods are intended to provide the proper services and better management of the city.

In a general view, the residential fabrics of Mashhad city can be

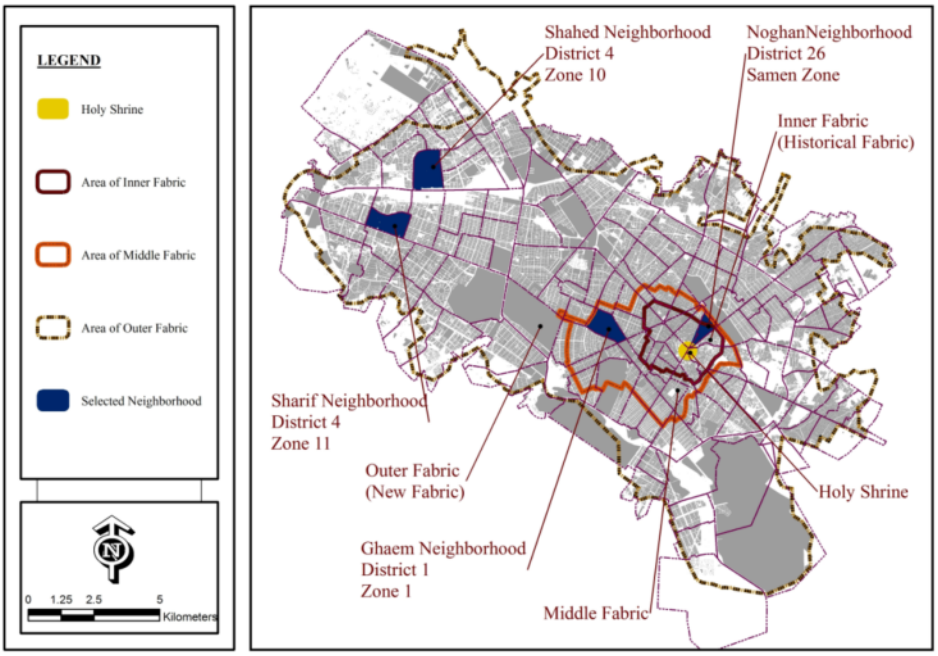

Fig1: The location of four selected neighborhoods in Mashhad city. (Source: Municipality of Mashhad, 2009)

divided into three parts: inner (historical) fabric, middle fabric and outer fabric (new fabric). Case study comprises of four neighborhoods from Mashhad municipality neighborhoods which provide the possibility to analyze within inner fabric, middle fabric and different kind of outer fabric.(Fig.1)

One neighborhood is selected from each of historical and middle fabrics in order to do research . Selection of these neighborhoods is intended to choose the neighborhood which conserves its social and spatial- physical structure So, Noghan neighborhood was selected in the historical fabric which is located in the second district of Samen zone. It is limited to Tabarsi and Kaveh Boulevards. Ghaem neighborhood selected in the first district from the first zone of Mashhad city which is limited to the Sanabad, EbneSina, Daneshgah, Ahmadabad and Kolahdooz streets. Two neighborhoods were selected in new fabric because of the diversity in new fabric and the other various factors. Shahed neighborhood is located in the first district of zone 10 of new fabric. Adib Neishaboori and Shahed Street and Emam Ali highway crossed from the surrounding area of the neighborhood. Another neighborhood inside the new fabric is Sharif neighborhood which is situated in the second district of zone number 11 of Mashhad city. Ghaem Magham Farahani street, Moalem and Vakilabad Boulevards located around this neighborhood. Table 1 shows the extent and population of four neighborhoods and in Fig. 1 & 2 the location of neighborhoods in Mashhad city and land use map

Table 1: The extent and population of four selected neighborhoods (Source: The statistical center of Iran, 2006).

Fabric Types and Neighborhood Name variables	Inner (historical) Fabric	Middle Fabric	Outer (new) fabric	
	Noghan neighborhood	Ghaem neighborhood	Sharif neighborhood	Shahed neighborhood
Extent (hectare)	52	105	114	155
population	7879	11555	12515	15274

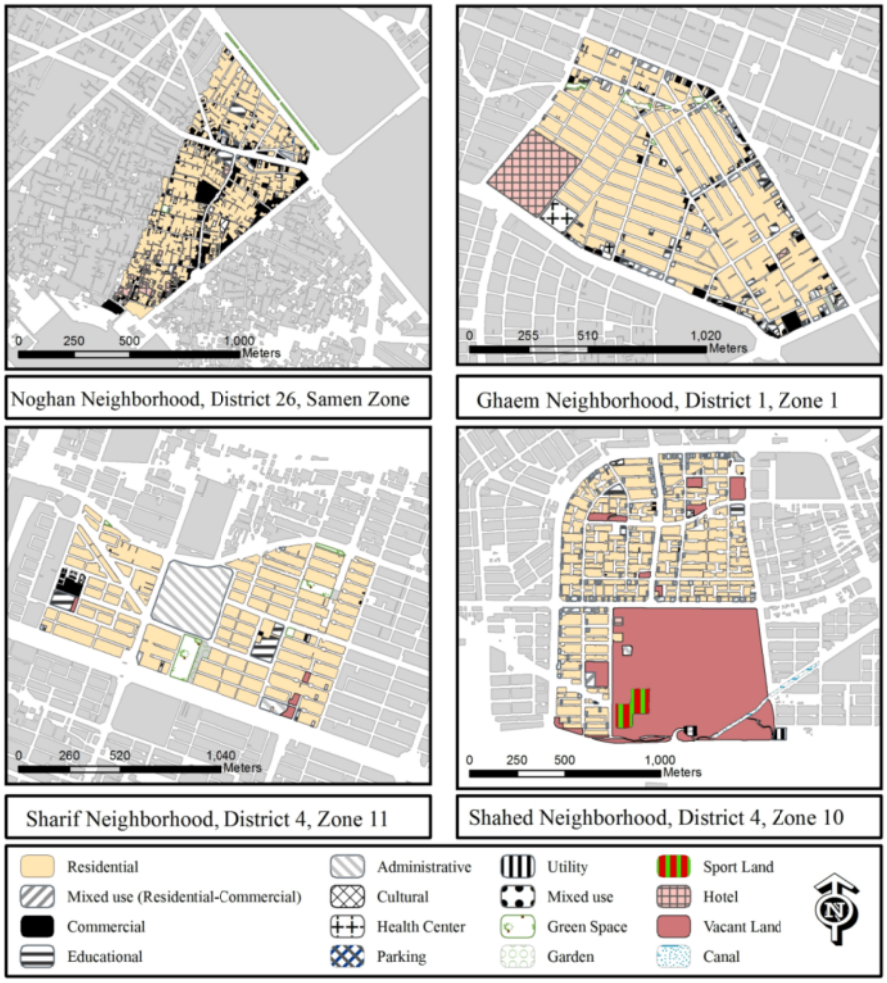

Fig. 2: The land use map of selected neighborhoods.

of four neighborhoods are shown.

Sample

Sampling method of each neighborhood is multi stage cluster. For this purpose, each neighborhood was divided into some several urban blocks. Then, some households were chosen from each block through random sampling. This study is a pilot study to investigate residents 'cognitive maps in Iran and correlation with the grown-up residents the age of whom is more than 15 .

50 questionnaires were distributed for each selected neighborhoods; thus, 200 questionnaires with the attached map were distributed in four selected neighborhoods. In this sample, questionnaires were distribute between male & female and among different age groups equally. All the questions in questionnaires were set in 2 main parts which are personal information and perceptual studies.

To review , the cognitive maps of residents are applied circular-unit representation method. The neighborhood map is attached to the questionnaire. The same scale was chosen for all attached maps in A4 size paper for selected neighborhoods; Furthermore, the components and identifiers of each neighborhood such as the name of streets and squares and main landmarks inside and surrounding of the neighborhood and Home position of respondents were specified and written on the map.

Respondents were asked to draw the boundaries of their neighborhoods due to the location of their homes. The questionnaire was filled in directly in the residents' homes and took about 10-15 min. to complete. According to the selected neighborhoods land use of neighborhood spaces was surveyed.

Table 2: Social-demographic information of respondents.

Variables		Frequency	Frequency (%)
Sex	male	109	54.5%
	female	91	45.5%
	total	200	100%
Age	15-24	44	22%
	25-34	46	23%
	35-44	44	22%
	45-54	35	17.5%
	Up to 55	31	15.5%
	total	200	100%
Education	Primary school	71	35.5%
	Diploma	91	45.5%
	Bachelor	28	14%
	M.S. or PH.D.	3	1.5%
	student	7	3.5%
	total	200	100%
Occupation	Business	63	31.5%
	Employee	29	14.5%
	Student	24	12%
	Housewife	59	29.5%
	Retired	21	10.5%
	No job	4	2%
	total	200	100%
Length of Residence	Below 5	54	27%
	5-14	59	29.5%
	15-24	42	21%
	25-34	25	51.25%
	Up to 35	20	10%
	total	200	100%
Residence in Mashhad city	native	161	80.5%
	No native	39	19.5%
	total	200	100%

The validity of research was firstly confirmed due to the corrective attitudes of experts about questionnaires. Then, the method of preliminary questionnaire was used to validate the questionnaires. The reliability of research is based on test re test method(Devaaws, 2002). According to this method ,the result shows high correlation with the main sample. (α=0.9)

The collected data were analyzed with SPSS ver.15 and Arc GIS ver.9.3 software. Table 2 shows social-demographic information of respondents.

Variable Specification

The process of analysis of research is divided into two parts. In first part , attributes of neighborhood in residents' cognitive maps are surveyed and in the second part boundaries of neighborhood in residents' cognitive maps are surveyed.

First part

In order to understand the meaning of neighborhood for

people and collective characteristics of residents' perception of the neighborhood , these variables were considered in questionnaires .

Feeling of living in neighborhood;

The neighborhood name;

The neighborhood center;

The landmark of neighborhood.

Second Part

In order to understand the geographical territory of neighborhood, circular- unit representation has been applied. Respondents were asked to draw boundaries of their neighborhood in attached maps.

Then ,these variables are surveyed:

The mean extent of neighborhood in residents' cognitive maps;

The mean percent of area that is overlap between residents' cognitive maps and municipality-based neighborhood;

The shared core (an area is common between at least 50% of residents);

The shared boundaries (the amount of Consensus in neighborhood boundaries in four geographical orients).

RESULTS AND DISCUSSION

The questionnaires analysis shows that a large number of respondents say high positive answer to the feeling of life in the neighborhood (Approximately 90%). Also, most of the respondents tried to define the place of living in one neighboring territory. Through this , they can link themselves to the specific place.

The study results showed that respondents in Noghan neighborhood mentioned different names about neighborhood name and Noghan was the most consensus name of neighborhood (Mode 50%). Noghan is the historical name of the neighborhood. Respondents in Ghaem neighborhood mentioned different names and Ahmadabad was the most consensus name of neighborhood (Mode 30%). Ahmadabad is the important street that is located in the south of the neighborhood. Respondents in Sharif neighborhood represented that Gasemabad was the most consensus name of neighborhood (Mode 54%). Gasemabad is an urban zone and many neighborhoods are located within it. Respondents in Shahed neighborhood represented that Sadaf was the most consensus name of neighborhood (Mode 64%). Sadaf is a local street with local activities.

The study results about the neighborhood center and landmark of neighborhood represent that in all neighborhoods few respondents have consensus on one neighborhood center or one landmark of neighborhood and variation ratio is high (Table 3).

The drawing- based representations were analyzed based on some variables that were shown in Table 4. First variable is the mean extent of neighborhood in residents' cognitive maps in four neighborhoods.

In each of four selected neighborhood, the mean extent of neighborhood in residents' cognitive maps was between 20% to 45% the extent of municipality-based neighborhood approximately. In the other word, residents perceived their neighborhood territory much smaller than territory of municipality-based neighborhood.

There was a more collective perception in terms of questions in

Table3: The percentage of residents' comments in four neighborhoods

Name of neighborhood / variables	Inner (historical) Fabric	Middle Fabric	Outer (new) fabric	
	Noghan neighborhood	Ghaem neighborhood	Sharif neighborhood	Shahed neighborhood
Positive response to the sense of living in neighborhood	92%	94%	88%	94%
Mode in neighborhood name	54% Noghan	30% Ahmadabad	64% Sadaf	54% Gasemabad
Mode in neighborhood center	32% Noghan Pass way	26% Ghaem St.	46% Sadaf St.	30% Mokhaberat Cross way
Mode in neighborhood landmark	26% Holy Shrine	16% Ghaem mosque	22% Central Prison	14% Mosques
Positive response to the recognition of neighborhood mosque	80%	70%	58%	72%
Positive response to the awareness of municipality plans for neighborhood	14%	26%	24%	22%

Table 4: Comparison of variables in neighborhood boundaries in residents' cognitive maps and municipality-based neighborhoods.

Fabric types and Neighborhood Name / variables		Inner (historical) Fabric	Middle Fabric	Outer (new) fabric	
		Noghan neighborhood	Ghaem neighborhood	Sharif neighborhood	Shahed neighborhood
Extent of neighborhood in Municipality-defined neighborhood (hectare)		52	105	114	155
Max Extent of neighborhood in Resident-defined neighborhood (hectare)		61.24	139.79	160.28	118.42
Min Extent of neighborhood in Resident-defined neighborhood (hectare)		3.96	2.44	3.2	2.91
Mean Extent of neighborhood in Resident-defined neighborhood (hectare)		22.5	45.15	44.8	32
S.D.		13.35	36.62	32.71	25.47
Mean percent overlap between residents' cognitive map and administrative neighborhood		38%	35%	35%	18%
shared core (Common area) (hectare)		16.3	13.2	12.4	0
Shared boundaries	North	38%	54%	66%	42%
	south	20%	72%	64%	0%
	East	52%	38%	16%	20%
	West	28%	38%	20%	64%

the Noghan neighborhood because of its oldness and historical identity. But in order to revise the adjustment possibility of administrative neighborhood boundaries with neighborhood, boundaries of residents' cognitive maps create less adjustment. The main reason is related to inappropriate choice of administrative neighborhood boundaries especially in the west side of boundary of neighborhood. In this neighborhood, the mean percentage of area overlaps between residents' cognitive maps and municipality-based neighborhood that is about 38%. Also, the other variable revised in this study was shared core. The results show the extent of shared core in Noghan neighborhood is 16.3 hectare including Noghan pathway. The extent of shared core in Ghaem neighborhood is 13.2 hectare that comprises of surrounding area of Ghaem Street. The extent of shared core in Sharif neighborhood is 12.4 hectare extent including surrounding area of Sadaf Street in residents' cognitive maps. There is no shared core in Shahed neighborhood among respondents. Also, this variable shows the significance of neighborhood centers in residents' cognitive maps. (Table 4 and Fig.3)

Another variable revised in this study was shared boundaries of neighborhood. In Nogghan neighborhood, east boundary (Tabarsi St.) is the most consensus boundary among respondents and other boundaries are low agreement. In Ghaem neighborhood, south boundary (Ahmadabad St.) is the most consensus boundary among respondents and other boundaries are in low agreement. In Sharif neighborhood, the north and south boundaries (Moalem and Vakilabad Boulevards) are the most agreed boundaries and other boundaries are in low agreement. In Shahed neighborhood, west boundary (Shahed Boulevard) is the most agreed boundary and other boundaries are in low agreement.

The results show, there is no collective cognitive map in municipality-based neighborhoods because residents' perception is more individual rather than collective. In Noghan neighborhood and also in the part of the Sharif neighborhood (Sadaf), there is seen greater consensus in residents' answers in comparison with two other neighborhoods. The Noghan neighborhood is defined with spatial identity that is originated by the neighborhood background, oldness and existence of Noghan pass way in the neighborhood center. The part of the Sharif neighborhood (Sadaf) is defined with Sadaf street as its

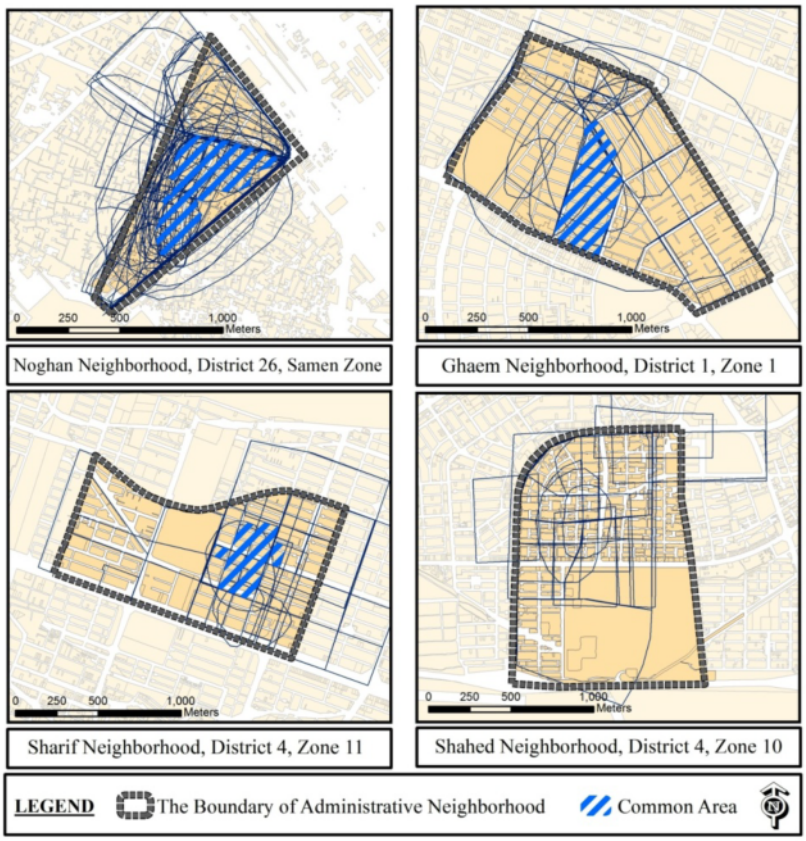

Fig.3: Presentation of neighborhood boundaries in resident's cognitive maps and shared core in four selected neighborhoods.

center with the physical-spatial identity that is originated by neighborhood center and local activities; Furthermore, there is no consensus among residents in terms of neighborhood name, neighborhood center, landmark of neighborhood and neighborhood boundaries. Also, the results show the municipality-based neighborhood should be divided into some smaller neighborhoods and the neighborhood boundaries should be corrected.

The neighborhood is a socio- spatial concept. Both of these two concepts have a role in neighborhood definition. Spatial concept of neighborhood consists of both physical space of neighborhood and activity space of neighborhood. Physical and social factors of the neighborhood have a dynamic relationship with each other. Physical aspects of neighborhood are shaped due to the various social aspects. Physical form of neighborhood can be affected on the collective perception of residents from neighborhoods. The social concept of neighborhood is created by residents' social interactions in a specific place. There is strong social interaction between residents as social alliance and association in some neighborhoods. Various social aspects like ethnic, religious, similar occupation of residents are the important aspects of creating social alliances. The strong concept of neighborhood creates only in this way. A neighborhood that has no social alliance among residents` more social interactions creates neighbors' friendship or interactions in local activity centers and neighborhood mosque(s), thus there is a low level of social interaction among residents. For example, in a neighborhood that has no social alliance among residents, residents define neighborhood with nearest activity center base on the local streets. This is the primary definition of neighborhood which creates the weaker concept of neighborhood in residents' perception surely.

CONCLUSION

With all changes in the spatial structure of our cities, neighborhood has its role and status in a mental image of citizens. Residents know neighborhood as the place which is the most important after their homes with emotional approach. Research result shows that residents' perception of neighborhood is totally different with municipality-based neighborhood. From municipality's point of view, the neighborhood is a spatial concept which is defined with distinct

boundaries, but from residents' point of view, the neighborhood is the residential area which is defined with social and spatial concept.

Social concept of neighborhood shows itself as social interactions among residents such as social solidarity or neighboring ties among residents or acquaintance of residents together in using of local services. Spatial concept of neighborhood shows itself as a set of physical space or activity space of neighborhood. Physical space of neighborhood is considered such as neighborhood boundaries, the form of neighborhood center, important landmark of the neighborhood and activity space of neighborhood is considered local services and mosque of neighborhood as a main place for worship and social interactions. Neighborhood center with local services and mosque of neighborhood have important role in residents' perception of their neighborhood.

A neighborhood which has historical center or a village that is located in the center of a neighborhood or a neighborhood which has a strong and coherent center with various local activities or a neighborhood has specific boundaries cause to create stronger concept of neighborhood in residents' perception. In neighborhoods that social factor doesn't exist for linkage among persons potentially, dividing municipality-based neighborhood should be done with emphasizes of existence activity centers and mosque of neighborhood.

Finally, our findings suggest that cognitive maps and other subjective measures of neighborhood represent potentially worthwhile approaches to better definition of residential neighborhoods.

ENDNOTES

1.In the most cases, these studies consider census-defined neighborhood as the unit for analyzing.

2.Main factors are population of neighborhood, extent of the neighborhood and main streets around the neighborhood.

3.Statistical Package for the Social Sciences

4.Geographic Information System

5.Respondents were asked with these following questions:

- Do you feel to live in one neighborhood?
- What is the neighborhood name?
- Where is the neighborhood center?
- What is the important landmark in your neighborhood?

6.This method is used circles to represent an individual's perceived neighborhood and participants are asked to draw boundaries of their neighborhood in specific maps.

7.Respondents were asked with this following question: What do you think of as the boundary lines or borders of your neighborhood?

8.Mode means the most agreement in one variable.

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