Design Principles for Secure and Sociable Local Community (Case Study: Chizar)

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Abstract

Sustainable development covers different environmental, social and economic dimensions. In this paper, we discuss social aspects of sustainability emphasize that a local community center should include security and sociability concepts. Therefore, the objective of the paper is finding suitable design principles that could increase these two concepts. The methodology of the article is survey and case study. The selected site is Chizar local community in Tehran. The paper will conclude that some design principles such as diversity in function, visibility, Attractive Street frontages and stay area increase security and sociability concepts.

Keywords: Local community; Design principles; security; socialization

1.0 Introduction

From the modern era and on, the public spaces have born a lot of sudden and profound changes in the process of their evolution. The people's quality of life and social interaction started decreasing, and the sense of local community began leaving the people's social life day to day. For solving these problems, the sustainable approach to the social life and Community-based planning appeared. Upon this approach, the local community is to bear public security and sociability concepts. The question of the paper is which design principles are more useful in increasing security and sociability. In other words, the objective of the paper is finding and ranking those design principles that could have more significant role in enhancing sociability and security, especially in Chizar community center. Therefore, it could be increased the social interaction and local community sense.

2.0 Literature Review

1. Sustainable development and local community center

The philosophy of sustainability emphasizes the achieving of sustainability that integrates the economic, environmental, and social into performance. In a holistic approach, every aspect of the sustainability parameters must be assessed to ensure a more pragmatic effort (Abu Bakar, Cheen, 2013, 484). This theory causes to appear community-based planning that emphasizes on a local scale. The community-based program is not a short term program. It could be last for more than seven years (Laurens, Joyce Marcella, 2012, 373). On the other hand, the physical place such as public squares can perform many activities and events in the city (Zakariya. Kh. Et al, 2014, 678). A real local community center causes a local community become sustainable.

2. Security and socialization approach

Besides the sustainable social principles included Security and socialization approach; they are chosen between five perceptual concepts including territory, security, sociability, legibility, and memorabilia. Another paper that focused on these five selected perceptual concepts in Chizar local community center concluded that each of these five perceptual concepts could promote social interactions. Although security and socialization have the higher mean score in this site (Sahragard M. Et al, 2014, 10). Therefore, it is better to focus on these two concepts.

2.1. Security concept

In recent times, researchers are increasingly making the case for variables of perception of safety as indicators of residents' quality of life (Okunola, et al. 2013, 48). The aspect of security is second most important after basic needs based on Maslow's hierarchy of requirements (Sakip et al., 2013, 384). Safety is categorized into physical and mental aspects (Zhang, H., 2012, 24). Once residents lose their sense of community, the neighborhood is vulnerable to a crime that could then lead to decreased security (Okunola,

et al. 2013, 50).

2.2. Sociability concept
Sociability in public space means that people can carry out their activities in relative comfort and safety while interacting, engaging in spectacles and ceremonies, or just simply sitting or waiting. It implies that people are comfortable to sit, 'hangout', or eat at the square in the public realm. (Zakariya. Kh. Et al., 2014, 678-679). In the context of the neighborhood environment, sociability is a measure of the opportunity for people to gather, which implies opportunities for children to engage in social interaction (Zhang, H., 2012, 25).

2.3. Related design principles to security and socialization
The design principles that could increase security and socialization are categorized into two parts.

The first part is design principles that effect on both socialization and security. It includes:

1. Mixed use: It means that different uses such as shops, offices, residential units are available in the local community. It causes safe and mobile environment in individual building and community scale. This principle does not only increase the mobility of environment but also facilitates social control in public spaces (Tibalds, 2001, 54). It could ensure the liveability of urban streets and squares in a whole of the day (Gehl, 2002, 88).

2. Diversity in the seating area: good public space provides various types of places for sitting (such as bench, chair, stair, and platform). The young people often prefer stairs for seating and chatting, although old people prefer seats, and kids prefer statues. The utility of seating area is provided by placing seating areas in proper view places, with shelter from the wind or the sun, and near water or statue (Gehl, 2002, 82).

3. Form: Form is an active essential factor on the level of privacy, and then it could increase the sense of convenience and safety (Bahraini et al., 1999, 22). On the other side, the central forms especially if an element such as fountain, artwork or platforms emphasize on their centers could invite people to gather (Lenard, 1998, 86). On the opposite side, some forms inspire people just to pass space not to stay.

4. Visibility: It means that you could see the spaces easily from any point. It is provided by permeability and transparency of the areas (crow, 2000). If the area is visible, it is more public and safe. So some people and the length of time spent increases (Wekerle and Whitman, 1995).

5. Gathering Center: People naturally like gathering in places that others attend. An area around a fountain, artwork or historic buildings is essential for creating memorable gathering center (Lenard, 1998, 86). The local community centers are themselves social gathering spaces that have the potential for inviting people to spend their leisure time.

The second part relates to those design principles that are affected just by Socialization, as following:

1. Diversity in Access: It means access in the local community is not just commute, but also includes a multifunctional space such as mall and recreation center (Barton et al., 2003, 117).

2. Attractive Street frontages: The frontages are often the favorite places for socializing, sitting or watching public life. A liveable frontage is created by carved pillar, stairs, and shelves. Therefore, it encourages people to stay or rest and creates life and experience in the streets consequently. The attractive street frontages should provide a favorite view by numerous entrances and transparent façades to create livable urban space (Gehl, 2002, 36).

3. Stay: Local center has an area for resting in the middle of the noisy street network like any other points (lynch, 1960). The Stay makes it possible to communicate with others and pay more attention to architectural details. Stay does not mean the complete elimination of movement; however, it decreases the dominance of trough traffic (Pakzad, 2010, 118).

4. Spatial Diversity: It presents various spaces for people with different characteristics in every circumstance to select a suitable, relaxing space for themselves. Therefore, it socializes space. It could be provided by considering various areas for seating, chatting, resting and eating.

3.0 Methodology

The research method includes two sections. The first is to gather the related design principles to security and socialization with a descriptive-analytic method by reviewing bibliographical resources and studies as a research tool. The second section that aims to categorize and rate the design principles in Chizar local center will profit by logical argumentation and descriptive statistics. The methodology of this part is survey and case study research, and the data instrument is a questionnaire. The survey includes four rating Likert scale with considering the Iranians' characteristics. Some questions are negative, due to the rule of preparing a questionnaire. They are re-coded by SPSS for data analyzing and calculating. Another considerable point is writing a question in a simple way for better understanding by people. In this regard, ten people read the questionnaire and tell authors the meaning of the issues to revise it. After editing, the final survey is presented. In this way, the validity of the questionnaire is approved. The limitation of the methodology is that 60 questionnaires are filled due to the shortage of time. More questionnaires could improve it. Another limitation is that it is in the step of descriptive statistics and could be developed by more complicated statistics methodology such as factor analysis.

Chizar community as selected site

Chizar local community locates in the northern districts of Tehran. The reasons for selecting this site are categorized into four sections. The first reason is that it is an old local community. The second is its high religious privilege that acts as a factor for remaining the sense of community. The third and fourth are its two famous shrines and the markable local center. "shrine Ali Akbar" as one of its shrines has a significant role in forming a sociable local center (figure 1).

Figure 1: The shrine as an important factor in forming a Chizar local community center

4.0 Findings and Discussion

The design principles categorize in two sections. The first part related to those design principles that effect on both security and sociability. The second part related to those that effect just on sociability (table 1). It is necessary to mention that the security and sociability have a relationship together, but they are categorized in this paper. This categorization considers the literature review that emphasizes directly on the relation between some design principles and those concepts.

Table 1: The relation between design principles as objects and security and socialization as contents

Object content	Mixed uses	Diversity in seating area	Form	Diversity in Access	Visibility	Attractive Street frontages	Stays	Gathering Center	Spatial Diversity
Security	×	×	×		×			×	
Socialization	×	×	×	×	×	×	×	×	×

1. Related design principles affected by both Security and Socialization

The means of design principles that are affected by both Security and Socialization are calculated (Table 2).

(a)   (b)   (c)

Figure 2: (a) mixed uses in Chizar local community center; (b) suitable places for seating area around the square in front of shrine; (c) seats in the courtyard of shrine could be developed by better types

Mixed use: This principle is asked in the survey as following: "shops, houses, and recreational centers are all together." The mean of it shows that most people rate mixed

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uses at the proper level in their local centers, and so people like to gather there; also, people feel secure, figure 2(a).

Diversity in the seating area: Diversity in the seating area could increase the length of time spent in public spaces; then it facilitates the social relations and increases security. The questionnaire includes this variable by the sentences: "There are suitable and various spaces for sitting such as bench, stair, chair and platform with an excellent view." The means of the two variables demonstrate that most people agree on the weakness of this principle in their local center. Therefore, the design strategy is to plan various seating area and finding suitable spaces for placing them. One of the appropriate areas for the seating area is around the square in front of the shrine, figure 2 (b) or it is developed by better materials and types, fig2(c).

Form: The first question is about the relation of form and security as follow. "There are some lonely corner spaces with less view, so it causes to decrease the sense of security". Considering the mean of this variable, it is recommended that corner spaces could be revised. The second question is about the relation between form and socialization. "Some places like the square in front of shrine have the form that inspires me to pass it rather than stay." The mean of this variable shows that the shape of some places is not suitable for gathering people. It is necessary to design forms especially with central elements in the middle of it. The square behind shrine is one of the places that could be developed (figure 3).

Figure 3: The Square behind shrine could be developed by central elements

Visibility: The three questions are planned to measure visibility."The Chizar local community center could be seen from many different spaces like houses, shops or streets." The means demonstrate that the effect of visibility on socialization and security is good and similar to each other.

The third is about the permeability of space as follows: "Each point of Chizar local community center could be seen from a long distance (200 meters)." people rate the permeability good, so they perceive security. All of these three questions together measure the visibility of the site in appropriate condition.

Gathering Center: The two related questions to this principle are "There are not enough spaces that have a suitable form for gathering people in it (like a square with a fountain in the center and benches around)." "There are few suitable formal and functional spaces for gathering people." The means of these two questions are shows that the

situation of gathering center is weak. Besides, people believe that the weakness of gathering center has a more adverse effect on socialization than security. The square in front of the shrine is a place that has the potential to become the real gathering center.

Table 2: the design principles effect on both Security and Socialization in Chizar local center

Variables		Mean	Variables		Mean
1.Mixed use	with socialization	3.06	4. Visibility	(Eshraf) with security	3.16
	with security	3.06		(Eshraf) with socialization	3.10
2.Diversity ,seating area	with socialization	1.76		Permeability with security	2.76
	with security	1.76	5.Gathering Center	with socialization	1.66
3.Form	with security	2.53		with security	1.83
	with socialization	2.23			

2. Related design principles affected just by Socialization

There are four design principles that are affected just by Socialization (Table 3).

Diversity in Access: The related question is: "people use the Chizar local community center for recreation and shopping in addition to commute." The mean of this variable shows that this principle is good on the site.

Attractive Street frontages: This variable is presented by this sentence: "when I walk here, interesting details like shelf, platform, seating area and windows attract my attention". The data collected from questionnaire shows that this variable is weak. The design strategy is to develop building facades by details that mention before.

Stay: The question of this principle is: "There are not enough spaces for waiting or resting for a moment. People rate this variable by considering the presence of stay area in the court of the shrine, so the mean of this variable is better than the average. The recommended suggestion is to design a stay area with various potential in the square in front and behind of shrine, Figure 4 (a).

Spatial Diversity: The question is: "There are not various suitable spaces for seating, chatting, eating, resting or standing." The mean of this variable shows that the situation of this variable is not acceptable from the people's point of view. The middle of the street is a good place to put various seats for seating and chatting, Figure 4(b).

(a)   (b)

Figure 4: (a) one of the potential stay areas; (b) The middle of the street as a possible place to have spatial diversity

Table 3: The design principles effect just on Socialization in Chizar local center

1.Diversity in access	with socialization	Mean	3.16	3. stay	with socialization	Mean	2.76
2.Attractive Street frontages	with socialization	Mean	2.03	4.Spatial diversity	with socialization	Mean	1.83

5.0 Conclusion

Sustainable development emphasizes on human qualitative and quantitative needs, particularly in the local community level. If security and socialization take place in public spaces of the local community, we could hope local community center become sustainable. This study derives the design principles that could increase security and socialization. Then it categorizes them into two parts. The first part is those design principles that are affected by both socialization and security including mixed use, diversity of the seating area, form, visibility, and gathering center. The second part relates to those design principles that is affected just by Socialization such as diversity in access, attractive Street frontages, stay, Spatial Diversity (table 4). Then, they are measured in the Chizar local community center by questionnaires. The first categorization, Visibility has the best score and people rate it between "agreement" and "total agreement". The second score belongs to mixed use. It demonstrates that people are satisfied with a combination of residential, official and recreational units in their local center. The form has the third grade, near the average. The suggestion of this principle is to revise corner spaces and to design forms especially with central elements in the middle of it as the square behind the shrine. The diversity in the seating area and gathering center both are weak and below the opposing toward totally opposite. The design strategy for diversity in the seating area is planning various seating area and finding a suitable place for setting them. The suggestion for gathering center is square in front of a shrine that has the potential to be a real gathering center.

Table 4: Categorization and ranking Related design principles to security and socialization

1.Related design principles affected by both Security and Socialization		2.Related design principles affected just by Socialization	
Deign principle	Mean	Deign principle	Mean
Visibility	Excellent	Diversity in access	Excellent
mixed use	Good	stay	Good
diversity in function	On the average	Attractive Street frontages	Weak
Form	Weak	Spatial diversity	Weak
diversity in the seating area	So weak		
gathering center	So weak		

In the second categorization, the variables are respectively Diversity in access, stay, Attractive Street frontages, Spatial diversity with score 3.16, 2.76, 2.03, 1.83. The diversity in access and stay are good because they are over the average (2.5) and attractive street frontages, and spatial diversity is weak. The design strategy for attractive street frontages is to develop building facades by details such as carved pillar, stairs, platforms, shelves

and transparent facades. The suggestion for spatial diversity is to find potential places to put various spaces for seating and chatting in it. Further studies could be to classifying these variables by factor analysis method. Another could be modeling it with finding the meaningful relation with their score.

References

Abu Bakar, A. H. & Cheen, K. S. (2013). A Framework for Assessing the Sustainable Urban Development. Procedia - Social and Behavioral Sciences,85, 484 –492.

Bahraini, H, & Tajbakhsh, G. (1999). The Concept of Territory in urban space and the role of urban design in it. Journal of fine art, Tehran University Publication, Tehran,6, 18-31.

Barton, H., et al. (2003). Shaping Neighborhood: A guide for sustainable& vitality, Spon Press, London& New York.

Crowe,T.D. (2000). Crime Prevention through Environmental Design, National Crime Prevention Institute, Boston.

Frey,H. (1999). Designing the city: towards a more sustainable urban form, London.

Fridman, J. (1993). Toward a Non-Euclidian Mode of Planning-APA Journal, London.

Gehl, J. (2002). Public Spaces and Public Life, City of Adelaide, Planning SA, Central business districts.

Laurens, J. M. (2012). Changing Behavior and Environment in a Community-based Program of the Riverside Community, Procedia - Social and Behavioral Sciences, 36,   372 – 382.

Lenard, H. (1998). Designing urban space and social life, the journal of architecture and urbanism, 44-45, 82-88.

Okunola, S., & Amole, D. (2013). D. Explanatory Models of Perception of Safety in a Public Housing Estate, Lagos, Nigeria; Journal of asian behavioral studies, 3(8), 48-57.

Pakzad, J. (2010). Architecture & urban design terms, proceedings, book 2, Armanshahr Publisher.

Sahragard Monfared, N. S. & Yazdanfar, S. A. (2014). Model of Perceptional concepts and related physical principles for local participatory center (Chizar local community in Tehran as a case study), Procedia - Social and Behavioral Sciences, Seoul.

Siti Rasidah, M. S. et al. (2013). Perception of Safety in Gated and Non-Gated Neighborhoods, Procedia - Social and Behavioral Sciences, 85, 383 – 391.

Tibbalds, F, (2001). Making People-Friendly Towns: Improving the Public Environment in Towns and

Wekerle, G.R. & Whitman, C. (1995). Safe Cities, Guide-lines for Planning, Design, and Management. Van Nostrand Reinhold, New York.

Zakariya, Kh. Et al. (2014). Spatial Characteristics of Urban Square and Sociability: A review of the City Square, Melbourne, Procedia - Social and Behavioral Sciences, No.153, 678 – 688.

Zhang, H.& Li, M.J. (2012). Environmental Characteristics for Children's Activities in the Neighborhood, Procedia - Social and Behavioral Sciences, 38, 23 – 30.