

The Role of Collective Spaces in Social Sustainability of Residential Area (Case Study: Firuzeh Residential Complex, Mashhad, Iran)

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Abstract The role of Social Constancy in designing a sustainable Community has been one of the most important and dispute-raising topics in recent years. According to the hypothesis and theory of the intended research, this concept can be interpreted on the basis of cumulative development pattern in residential complexes. Hence, the most important questions included in this research are: 1- What does social sustainability imply? And what kind of measures can evaluate this implication in designing residential complexes? 2-What is the role of group works in the social sustainability of residential complexes? In order to answer the questions of the present research, purposeful sampling methods were applied. Meshed has been selected as the sample regarding its characteristics as one of the most major metropolitans in Iran. Then, Firuzeh Residential Complex was selected among its different phases due to its distinct spatial properties. The type of research done in this study was the occasional type along with using compound solutions. Furthermore, research-oriented techniques and questionnaire were used to collect data. The results show that social sustainability can be reached within the residential complexes if there is an acceptable balance between group works and users' crowd. The residents will have more social wealth.

Keywords: social sustainability, residential complex, collective area, density

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1. Introduction

Today, due to the quantitative attitude toward housing and compensating for its lack on one hand and the profitability attitude on the other many humanistic, social local, and cultural values are neglected. Meshed like other Iranian cities, suffers from lack of appropriate housing and this has caused problems for the citizens. However, an appropriate house is a must for social gathering, welfare, and independence. Today homes are located within blocks with identical windows and shapes which makes it difficult not only for the guests, but for the residents themselves to recognize their intended homes [1]. Because of such a cliché crowd brought about, humans live massively near each other, so instead of positive and purposeful formation of social groups, a huge crowd is made which only results in crowds and chaos. Under such a condition, family members will escape from the crowd and become solitary to provide the least security and calmness possible. As a result, social deprivation is caused.

Social and economical sustainability must be as important as energy consumption and environmental influence of buildings and urban areas in stable designing [2]. Social sustainability within the residential complexes is referred to when residents feel satisfactory towards

living in their house and apartment and enjoy their neighbors so that social values are kept. In fact the existence of group works acts like a filter in that it softens the separated social interactions in today's crowded cities.

2. Definition and Meaning of Social Constancy

2.1. The Multi-dimensional Nature of Social Sustainability's Meaning

While few researches have dealt with the definition of social constancy, there is little agreement about its definition. One reason can be the complexity in defining the quantity of social matters and its meaning [3].

Several factors like multi-dimensional nature, the definition scale, and being covered with other concepts are influential upon the definition of social constancy. One of the methods for knowing social constancy's definition is to investigate its relation with other factors of constancy, i.e, economics and ecosystem. This issue shows the multi-dimensional nature of social constancy. Although the nature of sustainable development is dynamic and complex, this trend makes a balance between political, economic, social, and Environmental aspects. Social constancy will also gain a multi-dimensional definition

due to its dependent nature upon other aspects [3]. Major emphasis is put on the Environmental aspect of constancy so far and naturalistic discussions have emphasized on more effective use of the resources and the great lake of natural resources, on the other hand, humanistic view pays attention to both ecosystem problems and humanely and his life quality. According to Jarvis et al (2001) "social constancy generally focuses on the relation between people's behavior and the built environment or the relationship between the individuals' life chances and organic structures. This problem is vastly ignored in constancy arguments. ([4]:127) "The advantage of being multi-dimensional is that it makes a framework for comprehending how different policies influence in various situations. So the concept of social constancy totally depends on the political, social, economic, and environmental limitations and capacities in an area" ([5]: 5).

Chiu (2003) has specified three typology of different from theoretician's comprehension in relation to an understanding of various aspects of social sustainability. The first typology is: for an activity to be socially sustainable, it is necessary for it to keep or promote the existing social structures and values as social limitations of human existence. Every development which denies the pre-existing social values is not socially sustainable. According to Chiu (2003), Mitlin & Satterthwaite (1996) view, this idea doesn't provide sufficient freedom which is vital for reaching the social sustainable goals, and it seems that it accepts the existing social structures even if they don't continue with long-term. The second and third view, which is introduced by Chiu, has been used as the theoretical basis of his studies in the social constancy of Housing in Hong-Kong. The second view is the naturalistic approach in which Chiu refers to social constancy as the "necessary social terms for providing ecological consultancy." The third view is the humanistic approach which emphasizes upon social union. Among all the three interpretations, the last one put the most emphasis on justice and social equality. According to Chiu ([6]:65) "Fair distribution and consumption of resources and entities as well as balanced social relations and an acceptable quality of life are necessary for social constancy." Those viewpoints are seen in Yiftchel and Hedgcock's work (1993) in the analysis of citizen social constancy which emphasizes on three important issues of equality, social and citizen's sense. They said: "There are definitely other important social issues in the citizen area, but those three topics dealing with city development programming are superior." ([6]:140)

The advantage of this multi-dimensional comprehension will show the way through which different economic, social, and Environmental aspects affect urban policies, and provide a better understanding beside the previous focuses on the effectiveness of the relations between economic and Environmental aspects. Perhaps one of the biggest problems of urban policies is establishing a balance between the relations of constancy aspects. Also this argument needs a specific definition of social constancy in different nations since the scale of focus for effective aspects on social constancy is different among various nations, which will be discussed in section 2-1.

According to what mentioned so far, paying attention to various scales as well as global purposes of constancy is necessary in the designation and programming of houses,

residential complexes, and residential limits. Another thing that affects the definition and comprehension of social constancy is the different scales (international, national, urban, local units).

The analysis of social constancy depends on an investigation about the related definitions. Previous researches on more constancy are limited to economic and Environmental regards. However, the importance of considering social constancy as one of the most basic factors of sustainable development in recent years has caused the government to coordinate their political, economic, urban programs with this argument. Nevertheless, there is little agreement upon its definition. Polese and stren ([7]:15-16) define social constancy in this way: "A development, which is agreeable with the balanced perfection of social community, provides an environment for leading a kind of cumulative life that is agreeable with different social and cultural groups. On the other hand, such a development strengthens social unity by improving life quality among all social groups. "This definition views social constancy by the cumulative function of the society and the arguments related to each individual's life quality. The classifications imply that some aspects of social constancy weigh more than the others on the basis of the type of initial, medium, and finite needs. Providing shelter is one of the early needs which are introduced by Maslow as well. Also the shelter's size, its health, and the existence of services and initial constructions are the primary necessities of social constancy. During the next stage, neighborhood's security and its social relations are focused upon. Paying attention to psychological and sentimental needs, sense of belonging and arrogance, being satisfied with the neighborhood, active participation, and a sense of responsibility at high ranks in order to reach social constancy must be considered.

In order to analyze the quality of social constancy in cumulative atmospheres, and the common atmospheres existing at apartments and residential complexes, it is necessary to mention the fact that social constancy has influenced the policy of many nations. The English government has tried to relate constancy arguments with the quality of life. Putting emphasis on the social aspect of constancy is obvious in "the sustainable communities plan". (ODPM-2003) "the most recent policy presented English government (2005), which was accepted by the European Union later on (Bristol agreement), is the definition of "what is sustainable neighborhood?" through eight main titles which are: 1- active, general, and secure 2-proper service system 3- proper design and manufacture 4-proper managing 5- sensitive toward ecosystem problems 6- proper interaction 7- creative and developing 8- fair for all ([8]: 153-177). All those definitions include the three main basis of the extra implication of constancy, i.e, environmental and economic aspects, transportation, and those problems dealing with supervision, programming, and designation. The aspects of social constancy belong to the main titles 1, 2, 3, and 8. The first title includes "identity and belonging", "bearing the difference", "friendly neighborhoods", "Recreational and cultural chances", "anti-social behaviors/crimes", and "good quality of life". The second title defines a series of available services such as health, instruction, and social treatment. The third topic is about the sense of place,

intimacy, being healthy, atmosphere security, having access by means of non-automotive transportation, and arguments related to cheap residence ([9]:107).

Each of the existing definitions of social constancy refers to one aspect of social constancy, but what we understand from the meaning of some definitions is the importance of the aspect related to the community's role in development. Also, some concepts within the concept of social constancy like equality and freedom, human welfare and participation, improvement of life quality, and social unity have been emphasized in those definitions. An example of these definitions can be seen in Table 1:

Table 1. Examples of definitions of Social Sustainability ([10]: 17)

Theorist	Definition of social sustainability
Achs (1999: 27)	A strong definition of social sustainability must rest on the basic values of equity and democracy, the latter meant as the effective appropriation of all human rights – political, civil, economic, social and cultural – by all people
Littig and Griebler (2005: 72)	...a quality of societies. It signifies the nature-society relationships, mediated by work, as well as relationships within the society. Social sustainability is given, if work within a society and the related institutional arrangements satisfy an extended set of human needs [and] are shaped in a way that nature and its reproductive capabilities are preserved over a long period of time and the normative claims of social justice, human dignity and participation are fulfilled.
Biart (2002:6)	[Sustainability] aims to determine the minimal social requirements for long-term development (sometimes called critical social capital) and to identify the challenges to the very functioning of society in the long run
Polese and Stren (2000: 15-16)	Development (and/or growth) that is compatible with harmonious evolution of civil society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvements in the quality of life for all segments of the population

The studies show that social constancy plays an important role in the formation of houses, residential complexes, and residential limits. According to what has gone so far, we must consider the relation between the social aspect of constancy with other aspects, the scale of different aspects of social constancy, and the specific conditions and limitations of every environment in defining social constancy. Social constancy is a quality, which focuses on the ways of interaction among people according to social-cultural values of societies, and can be achieved by obeying the principles of social equality, human welfare, and providing his or her spiritual and physical needs in regard with each society's Environmental properties and social-economic conditions. That's why local community constancy is a basis for promoting citizen's meaningful participation in those activities related to residential complexes and all the volunteer activities related to their own surroundings [3].

2.2. Paying Attention to the Global Purposes of Constancy in the Area of Neighborhood

Another important matter which affects the definition and comprehension of social constancy is the focus on

different international, national, urban, and local units, especially neighborhood and nearness unit. Every government acts in regard with its own social, economic, political conditions and the global goals of sustainable development for performing many of the solutions suggested by command number 21. According to Bratland committee's report, we can compare the basic principles of sustainable development to the following methods:

- **General trust:** Refers to the protection of resources by the government in regards to general profit.
- **Preventing principles:** The actions taken for preventing from serious and irreversible damages. Those actions should not be postponed because of knowledge lack.
- **Justice and equality between generations:** Future generation shouldn't be endangered because of present decisions.
- **Participation and philanthropy:** Decisions must be taken at the lowest level possible.
- **Ecosystem protection:** The cost of damages done to the ecosystem must be paid by the people who are at fault. ([5]:8)

Those methods, which include different economic, social, and Environmental aspects, refer to the terms like general trust, and local supervision and participation. This issue itself necessitates the consideration of local scales for the accomplishment of the global goals of sustainable development. In addition to those terms, there are focuses on poverty and lack of social equality among and within nations and between the present and future generation within the arguments related to sustainable development, which should be answered by every government in regard with its own limitations and physical-social potentials. Another considerable matter is the scale of attention to some aspects of social constancy in developing and developed nations, which are different from one another. For instance, the most basic and essential problem of developing nations is decreasing poverty, social-economic equality, the existence of the shelter and its low price, the size of shelters, and lack of initial constructions. Nevertheless, we can also consider the citizen's social equality, social unity, social entity, social capital, health, and welfare. Some of the aspects of social constancy in developed countries are as follows:

- Having access to facilities and services
- Amount of life apace
- Health condition of the surroundings
- The atmosphere of the society and social relations
- Security feeling
- Being satisfied with the neighborhood

Definitions presented show more weight to some aspects of social sustainability, based on basic needs, intermediate and ultimate. "One of a hierarchy of needs having a shelter that has been introduced by Maslow too. Also habitat size and health and existence services and basic infrastructure are the primary requirement for social sustainability. The next step is to consider the safety of the neighborhood and type of social interaction. Considered to be mental and emotional needs of residents and some cases such as a sense of belonging and pride, satisfaction of the community, active participation and a sense of responsibility for achieving the highest levels of social sustainability" ([11]: 49). This matter is of great

importance to the planning and design houses, integrated biological and residential area.

2.3. Social Constancy Parameters in Neighborhoods and Residential Complexes

Madani-poor and Nurian ([12]: 12-62) propose various parameters and variables for the general and private atmospheres of the city, cumulative areas, and the common places existing within the apartments and residential complexes. Investigating about social constancy parameters is sometimes considered as the operational analysis of sustainable development goals in different social aspects. According Jenks et al [9] studies on the relation between social constancy and city form, eight different parameters are proposed for the analysis of different aspects of social constancy which are as follow:

- **Friendship and social interactions:** are estimated by the frequency of seeing friends and relatives in the neighborhoods, meeting/interacting with/borrowing sth from neighbors, knowing some, all, or most of the neighbors by their names and having agreed upon the fact that here (neighborhood) is a place where neighbors are friendly and take care of each other.
- **Sense of arrogance/ being satisfied with the neighborhood:** which is estimated by general satisfaction, proper appearance, sense of arrogance, identity, and belonging.
- **Being satisfied with the house**
- **Security:** which are estimated by the negative responses to the standard questions about the security of taking a walk alone in darkness, the serious problems of crime, being hurt by the children/ the young or the traffic and lack of comfort/ security in waiting for public vehicles.
- **Environment:** is estimated by the negative rate of lightness of street, parks or open spaces, serious difficulties with noisy neighbors, garbage or wall-writing, lack of parking lot or the amount traffic.
- **Movement:** is estimated by living in a place less than three years or moving in near future because of problems related to residence or that particular surrounding.
- **Participation in cumulative activities**
- **Making use of neighbor's facilities and services.**

Those aspects are the sub-categories of two main dimensions of social constancy, i.e, social equality and local social constancy. Although these subjects emphasize on local, sustainable community, the last title is completely related to access equality and can be divided in the form of facilities/ services like daily services appliance versus cultural services. Also, we can describe the above matter in this way: being satisfied with the house and local environmental quality aspects of equality ([9]: 113). We can declare the characteristics of social, sustainable neighborhood on the basis of the

mentioned parameters which is gained from previous investigations and experiences. As the mentioned before, the investigation manner of those parameters is different from place to place, and we can't reach a static pattern for neighborhoods' designation through imitating the results of the researches dealing with city pattern and social constancy in all regions.

3. Questions & Research Methodology

According to research purposes, the questions of the study include:

1. What does social sustainability mean? And what measures can evaluate this concept in designing residential complexes?
2. What is the role of group works in the social sustainability of residential complexes?

In order to answer the questions of the present research, purposeful sampling methods were applied. Meshed has been selected as the sample regarding its characteristics as one of the most major metropolitans in Iran. Then, Firuzeh Residential Complex was selected among its different phases due to its distinct spatial properties. The type of research done in this study was the occasional type along with using compound solutions. Furthermore, research-oriented techniques and questionnaire were used to collect data.

About 1100 households are living in this phase, so a questionnaire was written and distributed among 220 people (Per person selected as a representative of a household) who belonged to the target population chosen from different age groups and genders and were filled out on the basis of observation and interview. The results show that more social sustainability within the residential complexes can be reached if there is a good balance between the number of group works and the users' population.

4. Research Sample

Firuzeh Residential Complex is located on the southeastern side of Ferdowsi Square and the northern part of Ghazi-e-Tabatabai Street in Meshed. This location belongs to municipality zone NO.1. The total number of residents is 3523 which includes 1137 families. The land dedicated to building this complex has been 13 hectares, which decreased to 9/18 hectares later on. Furthermore, this complex has 5 residential phases, each of which has its own specific area, entrance, and management team.

Those phases were chosen as the sample because all of them are located in one place and its inhabitants have the same social status and culture, but are incredibly different in terms of their environmental characteristics, number of residents, and range of general facilities. Phase 1 was not investigated due to its short distance from other phases and its location on the southern side of Ghazi-e-Tabatabai Avenue; thus, questionnaires were distributed in phases 2, 3, 4, and 5.

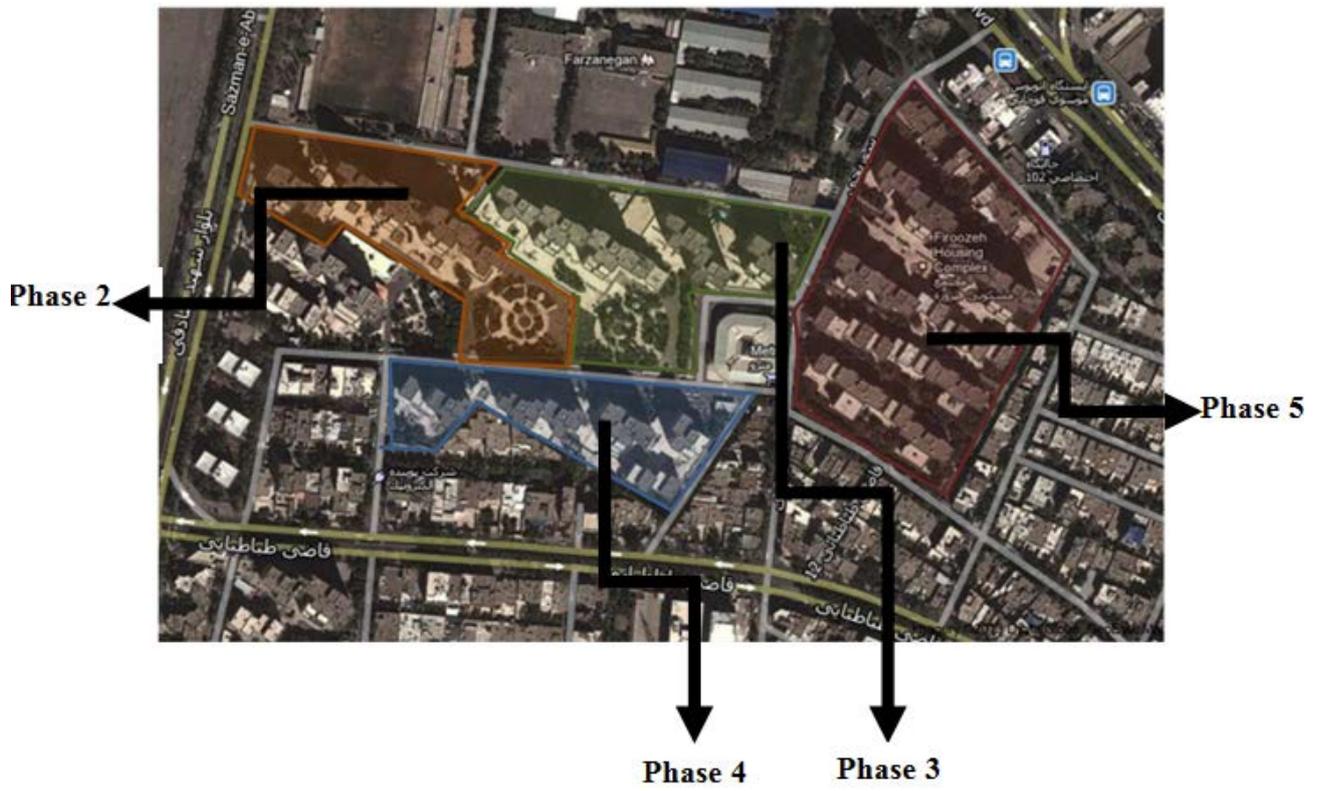


Figure 1. Site Plan of Firuzeh Residential Complex



Figure 2. Phase 2, Source: Taken by Author



Figure 4. Phase 4, Source: Taken by Author



Figure 3. Phase 3, Source: Taken by Author



Figure 5. Phase 5, Source: Taken by Author

Phase 2 of Firuzeh Residential Complex:

This phase is alongside Sadeghi Street and has one entrance. It also includes 210 residential houses, one library, children playground, a conference hall, and the biggest park of all phases.

Phase 3 of Firuzeh Residential Complex:

It is located in the northern and eastern part and includes 250 residential houses, one library, a conference hall, a volleyball and soccer field, a ping-pong table, chess boards, children playground, and a park in harmony with the population of this phase. Although its population is more than other phases, the residents have relatively good relationships with each other in comparison with other phases.

Phase 4 of Firuzeh Residential Complex:

This phase is located between Ghazi-e-Tabatabai the 8th and 4th. It includes 196 residential houses and a small area (intended for the comings and goings). Moreover, there is no space dedicated to children's playground or the elderly gatherings.

Phase 5 of Firuzeh Residential Complex:

It is located in the far eastern part of Firuzeh Complex and people can have access to it through Ghazi-e-Tababai the 10th. It has 260 residential houses plus two entrances. The height of buildings in this phase is less than those in other phases and they mostly have 4 floors. The distance between opposite blocks is less than other phases which have diminished privacy and lack of intimacy.

5. Analysis of Findings

As can be seen from the samples studied, phases 2 & 3 involve more group works, so phases 2 & 3 will be compared against 4 & 5 in all analytical studies.

Questionnaires including 20 three-alternative items and whose main purpose was to evaluate social sustainability and zone dependence as a dependent variable on social sustainability among the residents were administered.

About 1100 households are living in this phase, so the questionnaires were distributed among 220 people (Per person selected as a representative of a household) who belonged to the target population chosen from different age groups and genders and were filled out on the basis of observation and interview. When answers were evaluated, a point scale between 1 to 3 was considered for each item.

Finally, the data average for every question regarding the residential complexes studied were calculated separately. The closer an answer is to three, the more social reliability will be.

The results concluded from the analysis of the questionnaires were as follows:

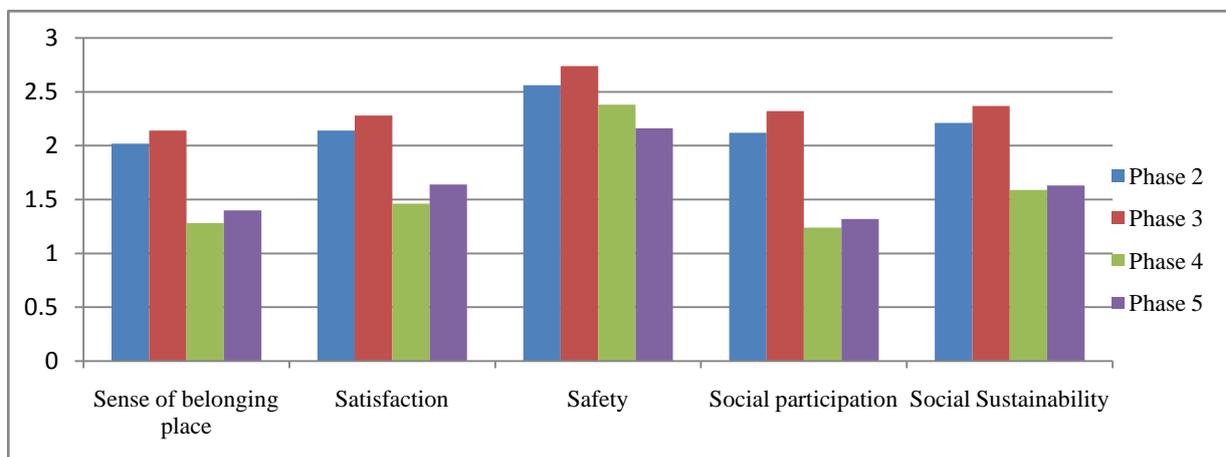
It can be concluded from chart 2 that residents of phases 2 & 3 with an average of 2/02 & 2/14 feel more dependent on their surroundings, take more responsibility toward their children and try to soothe each other at times of sorrow and grief. As a result. They feel proud of their place of living, talk proudly about it, and try to keep it clean and protected, while those in phases 4 & 5 with an average of 1/28 & ¼ often try to be away from their surroundings.

The residents of phase 3 with a grade of 2/28 are the most satisfied people, which reflects the chairman's responsibility and providing proper facilities for all ages to spend their free time, which in turn has led the residents to be more satisfied and take more responsibility in making decisions about their residential area more than those in other phases. However, those in phases 4 & 5 have often taken part in their general meetings less than once and according to the data, the level of group works among those residents is very low and alarming.

Table 2. Results of measuring Social Sustainability

	Phase 2	Phase 3	Phase 4	Phase 5
Sense of belonging place	2.02	2.14	1.28	1.40
Satisfaction	2.14	2.28	1.46	1.64
Safety	2.56	2.74	2.38	2.16
Social participation	2.12	2.32	1.24	1.32
Social Sustainability	2.21	2.37	1.59	1.63

The results regarding security index indicate that the residents of phase 3 feel the most secured and those in phase 5 feel the least. Generally speaking, the amount of data regarding feeling secure is higher than other indexes, which shows that although it is trying to provide somehow an acceptable secure environment in all those phases, due to lack of proper group works and proper places for establishing social interactions among the residents in phases 4 & 5, social sustainability stands at a totally different level.



Graph 1. Results of measuring Social Sustainability

The mean of social interactions within phases 3 & 2 is 2/32 & 2/12 respectively, which is an indication of fairly good cooperation among residents. In those phases residents are actively present, gather together on different occasions, and feel responsible for each others' sorrow and happiness. However, in other phases the residents are totally dispersed evenly at emergency times and they leave everything up to janitors and those in charge, which shows the low level of cooperation among them.

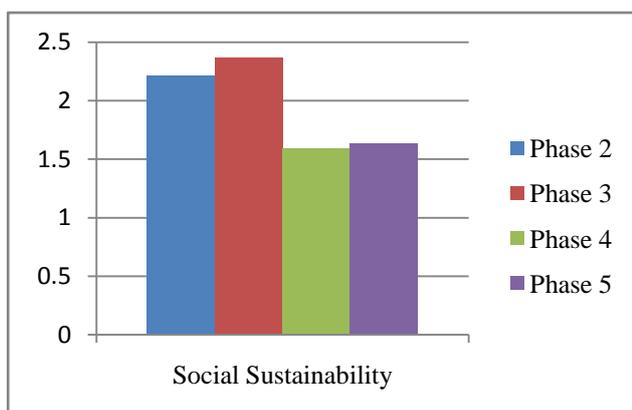
The value considered for all the studied indexes in this research is equal in order to do the final evaluation. As can be seen in paradigm 2, social sustainability in phases 2 & 3 is considerably more than that of phases 4 and 5, which indicates the vast influence of group works upon the social sustainability of residential complexes.

6. Conclusion

6.1. The Role of Cumulative Life and Areas in the Neighborhood Social Constancy

Social stability has gained special importance in the planning and designing of residential and living areas, especially considering the today's life that moves toward individualism quickly.

Cumulative life and areas have an inseparable relationship with one another, a relation which has its origin in their theoretical and practical concepts. Social or cumulative life is an opportunity for getting rid of daily life disturbances, spending free time, social interactions, and a gathering of people and different groups and also a chance for presence, freedom of speech, and maintaining them in the atmosphere. Cumulative life in public atmospheres depends on the advertising of social interactions, attracting people and different groups, social security and consequent encouragement toward decreasing different group's tolerance in the atmosphere, more socialism, and finally the establishment of a fresh and active atmosphere. And this is practical in a favorable social atmosphere along with physiological calmness, land claim, a sense of possession, and receiving justice within the atmosphere. Social interaction and relation establishment can be a physical topic, a look, a conversation and a relation between individuals, which itself requires the definition of events and related activities and as a result the people's role in the atmosphere, and their membership within groups and social networks.



Graph 2. Comparing the amount of social sustainability

Great theoretical studies have been accomplished in this area. Amos Rapoport (1969) is a famous person among behavioristic psychologists who have focused on urban subjects. He has added new dimension to urban designation and programming by proposing the topic of mutual interaction between human and environment. According to him, each cumulative environment and local community are a collection of mutual relations between environmental elements and people; a relation which obeys definite patterns and because of this they are usually predictable and can be organized. In this way the role of cumulative life and area in social constancy becomes visible.

Research results show that, should attempt to develop a group of fields in residential for sustainable neighborhood design, this development is needed to pay attention to the role of social constancy in the design of sustainable neighborhoods. Social interactions is the main element in forming the society. Also, it is the simplest common element in human life. "Social interaction can be defined as a series of vivid actions that a man in regard with another man does to reach a purpose. People have an innate need for establishing social interactions, so they try to provide opportunities to experience social relationships. Social relations are formed due to different reasons. They can be emotional including friendships, family relations, and relationships among neighbors; logical which serves to maximize the people's chances of reaching a goal; value-based which follows a purpose without regarding its expenditures and other purposes; traditional which is formed according to beliefs and traditions and continues because of its traditional and ideological nature. Concerns over diminished social relations is among the topics which are common in classical sociology. Perhaps we can say that sociology birth is due to the concern to the degrading trend of social relations as a result of industrialization and the beginning of modernity. The early sociologists have proposed different ideas toward the influence of urban life on human life. According to Zimel, Phenomena such as increased labor, prejudiced wisdom, and the like have led to caution and lack of interest in the social relations within metropolitans. Such circumstances will lead to unstable relationships and diminished social reliability.

The theoretical arguments toward the meaning of social stability are interpreted through analyzing the society and social relations. This is because social interaction is happening within the constraints of place and time. Exposure can be the reason for initiating social relations. The physical structure and the functional divisions of place may limit or develop opportunities for interaction. Designing at different scales, including urban planning, designing sites, and designing the details can have an effect on people's gatherings at exterior places. Cultural system and social relationships are interconnected. So place includes a collection of social and cultural interactions among a special group and within a specific place. Those relations continue over a specific period of time; consequently, social life is surrounded by place and time. This kind of relations is established within place and their development makes the place or environment meaningful. Finally, group works and common spaces within apartments and residential complexes are places for making social relations come true.

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