

DESIGN GUIDELINES FOR CHILD-FRIENDLY CITIES, CASE STUDY: FIROOZEH NEIGHBORHOOD IN KERMAN, IRAN

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Abstract

Recent years have seen a rapidly growing public debate about the welfare of children around the world. According to UNICEF, a Child-friendly City is a system of good local governance committed to the fullest implementation of the Convention on the Rights of the Child. In addition, the outdoor environment is perceived as a social space which influences children's choice of informal play activities and promotes healthy personal development. On the other hand, in everyday life in Iran, children play on streets or alleys and use almost every open spaces and spaces between buildings as their playground. While, absence of places designed for children, not only in terms of their quantity, but also their quality and neglecting basic safety rules for children are noticeable.

The purpose of this study is to analyze how the structure of the built environment contributes to environmental child friendliness and proposing some guidelines toward child friendly cities. This paper draws on research and practice literature as well as the thoughts, experiences and observations of children in firoozeh neighbourhood, as it seeks to draw out the key themes and elements' regarding a child friendly neighbourhood and how it can be built. Children between 7-12 years old from Firoozeh neighbourhood in Kerman, were asked to explain their favourite environments and were interviewed individually afterward. The results were analyzed to achieve some guidelines in child friendly environments and explore the places with higher attraction for children.

Keywords: Children, child-friendly, neighbourhood, outdoor, play

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Introduction

A Child Friendly City is a system of good local governance committed to the fullest implementation of the Convention on the Rights of the Child. Large cities, medium-size towns as well as smaller communities – even in rural settings – are all called to ensure that their governance gives priority to children and involves them in decision-making processes.(UNICEF, 2004)

Child Friendly city is an important topic for consideration of governments, which is not only necessary due to international advocacy of child rights, such as that of the United Nations Convention on the Rights of the Child which guarantees their rights as citizens of their city, country, and of the world, but also considering the fact that our current children and youth are the future and sole beneficiaries of their current cities and nations. As a physical and social environment, neighbourhoods influence the things children do, can do, like to do, and are able to do (Berg and Medrich, 1980).

Necessity

In traditional pre-modern cities, streets used to form multifunctional and densely occupied spaces, serving also as playgrounds for children. In the last few decades there has been a decrease of the children's presence in public urban space and, at the same time, a reduction in their street-play activities(Galani and Gospidini,2011).

Nowadays children's play is being restricted to their rooms or even computers when they are moving away from nature and outdoors but nowadays their presence in indoor is more than outdoors when the effect of playing, especially in outdoor in different aspects of children lives is significant. It is important to provide places for children to do their physical needs. (Tonucci,2005)

Children and adults make a very similar appreciation of urban reality. Both acknowledge that the city is dangerous, there are too many automobiles, which do not respect pedestrians, the pavements are dirty, in a bad state of repair and cluttered, pedestrian crossings are unsafe, and there are a lot of nasty people about. But the conclusions they draw are by no means the same. The adults say to the children: "Since these are the conditions that prevail in the city, you should stay home, and if you have to go out I will accompany you and wait for you". On the contrary, the children say: "Since these are the conditions that prevail in the city, they must be changed". Planning for children has traditionally been a low priority in urban environments when children need to go out without supervision and have chance to grow together. They need a space which can offer them new experiences, new discoveries, new treasures and can accompany them during their development. In order to grow up and to play, the children need the city – no more, no less.

How do we bring children's needs back into the main stream of urban development and planning?

The following imperatives would be a good starting point for the redesign of children spaces parameters:

1. Children have a right to play and their ability or inability to play will impact markedly on their overall competency development. Children are part of the 'residential package'

and their unique needs should have special consideration in any new development at every scale, from the individual land- holding to the subdivision.

2. As children grow up, their needs change. Therefore, an urban area has to service multiple age groups, requiring flexibility/variety of design at all levels.
3. Public play spaces need to be planned and designed to invite child usage and to support the adults who come with them. (Gleeson and Snipe,2006)

Playing for children is a vital issue that has been recognized by the united nations high commission for human rights as a right for children. Fulfilling physical activities with developing psyche health, creativity, social activities (as group) and their quality of life are all benefits of playing for children. As they master their world, play helps children develop new competencies that lead to enhanced confidence and the resiliency they will need to face future challenges. (Ginsburg,2007).

The concept of the 'outdoors' includes public and private outside spaces, most often incorporating some degree of the 'natural' in which people can engage with nature in man-made (urban green space such as domestic and communal gardens and urban parks) or less managed spaces such as open countryside, forest, and coastal and mountain areas (Pretty, 2007).

Although the reasons for the decline in outdoor play are as numerous as the implications, neighbourhood design has attracted attention as a contributing factor (Koplan et al. ,2005) This is especially true for children who either do not have the resources to visit alternate outdoor plays capes, or whose neighbourhoods do not offer safe and children friendly environments. Eligible districts for children are those that meet the aspects of life with elements from both physical and non-physical set out in the Convention on the Rights of Children and the Law on Children Protection. (Dewi ,2012)

The development of the senses of smell, touch and taste, and the sense of how they move through space (known as proprioception) are also best learned through experiences outdoors. These aspects of learning and development are just as important as (and also connected to) learning how to read, write or do math. (Willoughby,2014)

Streets in neighbourhood are more than transportation channels, they are also suitable for pedestrian attraction and encouraging children to play by providing play options, safety and social interactions. Cooper and Sarkissian (1986) believes that safe and uninhibited play, need for non-supervised outdoor interaction, housing and neighbourhoods safe from physical, social and environmental hazards, interaction with nature, peer group interaction and assimilation, private spaces, and mobility are children and youth needs in their neighbourhoods.

Background

The principles of sustainable development clearly demand that the achievement of environmental, social and economic goals meet the needs of the present generation without compromising future generations. Nation governments must maintain the integrity of the social, economic and environment fabric of their global and local environments through processes that are participatory and equitable. (Gleeson and Snipe,2006)

The concept of child-friendly environments has been used extensively by the United Nations Children's Fund (UNICEF), in the context of rehabilitating conflict zones, and has extended to the education setting more generally.

The Child Friendly Cities Initiative (CFCI) is a worldwide movement advocating for the fulfilment of children's rights at the level of cities and communities (UNICEF, 2011). A number of cities and municipalities across the world have made the political decision to become 'child-friendly', during the last decades. Research from various CFS around the globe has shown numerous benefits of the concept. The strengths of CFS include flexibility, rapid start-up, scalability, low costs, adaptability to different contexts, and utility in mobilizing communities.

Based on UNICEF (UNICEF, 2004), the child friendly is a city, or more generally a system of local governance, committed to fulfilling children's rights, including their right to:

- Influence decisions about their city
- Express their opinion on the city they want
- Participate in family, community and social life
- Receive basic services such as health care and education
- Drink safe water and have access to proper sanitation
- Be protected from exploitation, violence and abuse
- Walk safely in the streets on their own
- Meet friends and play
- Have green spaces for plants and animals
- Live in an unpolluted environment
- Participate in cultural and social events
- Be an equal citizen of their city with access to every service, regardless of ethnic origin, religion, income, gender or disability

Characteristics of child friendly cities are also mentioned by UNICEF (UNICEF,2001) as bellows:

- Good access for all children to affordable, quality basic health services, clean water, adequate sanitation and solid waste removal;
- Local authorities to ensure that policies, resources allocations and governance actions are made in a manner that is in the best interests of the children and their constituencies;
- Safe environments and conditions that nurture the development of children of all ages with opportunities for recreation, learning, social interaction, psychological development and cultural expression;
- A sustainable future under equitable social and economic conditions, and protection from the effects of environmental hazards and natural disasters;
- Children have the right to participate in making decisions that affect their lives and are offered opportunities to express their opinions;
- Special attention is given to disadvantaged children, such as those who are living or working on the streets, sexually exploited, living with disabilities or without adequate family support;
- Non-discrimination based on gender, ethnic background or social or economic status.

Designing a child friendly environment by CFC defined in nine building blocks including:

1. Ensure children's participation
2. Have a child friendly legal framework

3. Develop a city-wide children's rights strategy
4. Create a children's rights unit or have a coordinating mechanism
5. Ensure a child impact assessment and evaluation
6. Have an appropriate children's budget
7. Ensure a regular state of the city's children report
8. Make children's rights known among adults and children
9. Support independent advocacy for children

Aims and objectives

The aim of this paper is to review the child friendly cities characteristics and respond to lack of practical tools for assessing and improving environments related to children. The paper will also try to propose some guidelines toward designing child friendly neighbourhoods and improving the quality of outdoor spaces for children within their neighbourhood.

Methodology

The study has a qualitative approach and tries to confirm the association between the built and social environments of neighbourhoods and children's behaviour and activities within the neighbourhood, while controlling for preferences and attitudes.

The data used in this study came from analysis on Firoozeh neighbourhood in Kerman, Iran. An important methodological driver for this study is the approach to investigate children's choices and behaviour in their living environment, their preferences to use streets as a playground and the examination of the characteristics of Firoozeh neighbourhood. The analysis of Firoozeh Neighbourhood took into consideration parameters in the field of urban planning and urban design that influence the use of public spaces by children. Finally, the concluding critique provides recommendations and design guidelines for designing child friendly neighbourhoods.

Case Study

Firoozeh is a neighbourhood in Kerman that is located on the Kerman Province in southeast of Iran. It is a residential neighbourhood when most of the buildings have one or two storeys. Population of neighbourhood is 4080 residents and family size is 4 persons per family. There are 1000 residential units in 510 parcels. (Figure1)

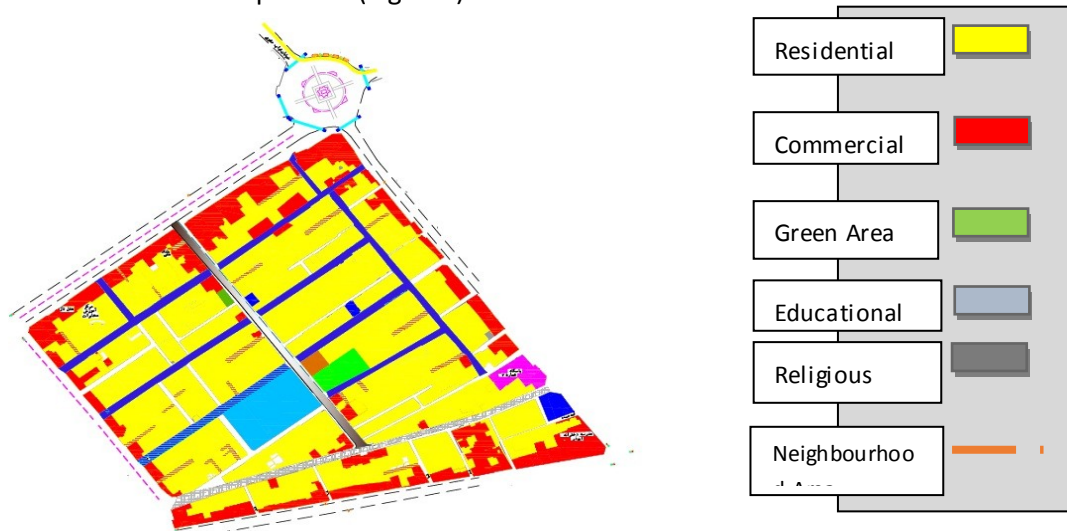


Fig.1- Current land use plan of Firoozeh Neighbourhood

Source: author

The only public space in Firoozeh green area which is neglected because of weak access and connection to other areas such as mosque and residential buildings. In absence of vitality and security, neighbourhood streets could not mention as public. Neighbourhood has 8 entrances and ways of access when most of them are not consider the traffic rules in urban design process There is also no defined pedestrian and bicycle path. (Figure 2)

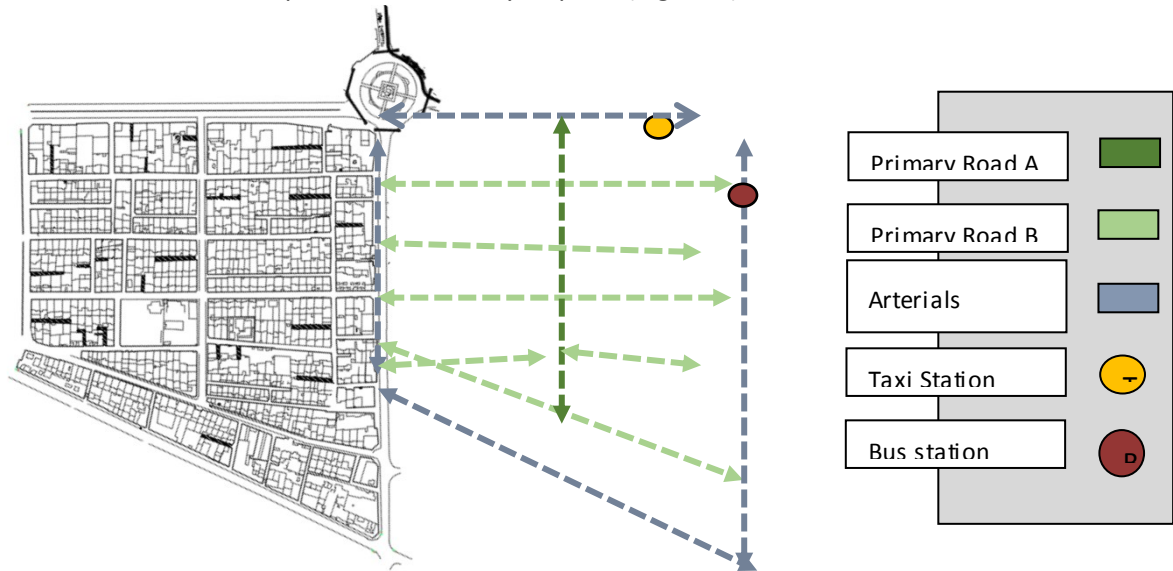











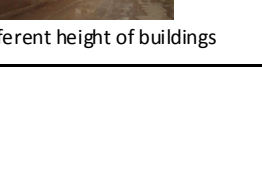
Fig.2- Accessibility in Firoozeh Neighbourhood

Source: author

The characteristic of Firoozeh Neighbourhood has been analyzed in three main categories, including: function, aesthetic and environment. (Table 1)

Table 1-Firoozeh Neighbourhood current situation Analysis Source: author

Functions	Land use and activities	Landuse diversity in neighborhood is inappropriate and green area is not well equiped for children in case of facility and security.	
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	Accessibility	<p>Despite the variety of accessibility (8 entrances), neighborhood has not a favorable permeability and there is no well defined entrance for neighborhood, especially in case of traffic rules. No public parking area, bus station, taxi station, Vehicle road within public green area, pedestrian path and bicycle path make the neighborhood unsafe for children.</p>	 No well designed entrance	 Cars within the green public areas
	Public Spaces	<p>The only Park as a public is neglected due to the lack of connection to other activities and not designing base of climate comfort. Roads of neighborhood could be considered as public spaces which in absence of security and vitality is not a good place for children.</p>	 Streets as a public space	 Park the only public area
Aesthetic	Form	<p>Mosque is one of the landmarks in neighborhood. The buildings are with different ages and heights (mostly 2 story buildings) without paying attention to human scale.</p>	 Mosque as a landmark	 Different height of buildings
	Landscape	<p>As a result of different forms and heights of buildings there are lots of views which mostly not favorable. The sky line is diverse in neighborhood.</p>		
Environmental	Greenery and pollution	<p>The only green area in neighborhood is a park when even the number and diversity of trees are low. The air pollution is not noticeable but in main streets the noise pollution is considerable. Storing the waste close to the residential buildings make the environment unclean for children.</p>	 Neighborhood Park	 Storage of waste in residential area

Analysis

For the purpose of this research, the children behaviour and activities were observed during fall 2015 in the peak presence of children in neighbourhoods public spaces. Gender, age, route, type

of game, the main activities and play areas has been recorded. These assessments offer opportunities to find the weakness and strength of Firoozeh neighbourhood toward a child friendly environment. Things that went well and other things that did not go well both offer lessons that are used to inform and guide future work.

After the observation of children activities and behaviour in outdoor we understand that we could realize four types of children activities:

- 1- The presence of children in neighborhoods' public open spaces with their parents (children less than 9 years old are not able to use public open spaces independently)
- 2- Children plays on the streets without their parents more happen on alleys especially dead end alleys. (number of boys who were playing outdoor is significantly higher than girls which shows the lack of inclusive local open spaces for different genders)
- 3- Children plays on the neighborhood's streets just limited to football that prove the absence of diversity in open spaces of Firoozeh Neighborhood
- 4- Routs that children choose

Other noticeable cases identified in observations are:

- Inadequate open spaces with variety of activities for people in different ages.
- Since after school children usually do some shopping on neighborhood, therefore creating small attractive activities could be a good motivation for children to participate in social activities.

Results

Based on the current situation of neighbourhood and survey results, obviously, there has been too little attention on children's needs in urban policy and design in this neighbourhood and too little work on understanding how the built environment shapes children's well-being. Consequently, Planning and policy development with engaging children in community consultation seems necessary.

There is not a high focus area for children activities in neighbourhood, as a result, parents concern and worries for their children independently presence in neighbourhood due to the current situation of neighbourhood and existing problems is predictable. When children feel safe in their neighbourhood, they feel part of it and are able to act independently within it. In response to the need for safe routes and spaces to play, walk and bike to school and to improve overall neighbourhood safety, designing safe routes and environment is needed.

Streets and spaces with exclusively residential character do not seem to attract children, when in environment with mixed land use high densities of children playing will present. Even, in streets that have a lot of car traffic, traffic calming measures should be taken, leading to reduced car speeds resulting in safer environment for children. Choosing their own activities or doing activities in their own way were important for children for this reason making chance for children to have variety of activities and choices to play could be a good motivation for them.

Moreover, a crucial factor that influences children's presence at streets is value of space, while low value spaces are not preferred by children in their everyday life. Considering streets as firmly well design spaces, children seem to prefer them as playgrounds on the condition that they hold other spatial characteristics, as for example street enclosure, mixed land uses, attractive design, available space, pedestrian use, bike path and etc.

Key ways of achieving all characteristic of child friendly environment within a neighbourhood like Firoozeh, include prioritizing open spaces when planning, regenerating and rehabilitating neglected spaces and developing existing spaces and activities links. Therefore, the design goals would be:

- Supporting meaningful participation by children
- Building upon existing resources
- Aiming for a change of culture and systems
- Creating a neighborhood full of child friendly places
- Focusing on the specific needs of children based on the continuum of healthy development
- Make it possible for parents to encourage their children to participate in neighborhood and play outdoor
- Make children enthusiastic to have an active participation in neighborhood

To approach the design goals, lots of efforts are indispensable for which some strategies could be:

- Promoting safety and security
- developing accessibility improving social interactions
- Relieving and making vitality
- Designing a nature connected area
- Increasing the partnership
- Supplying climatic comfort

Design Guidelines

For developing a child friendly neighbourhood, different aspects of design that will provide unique, dynamic, and creative features should be considered, and public and private integration helping to create a livable community. Specially in Firoozeh neighbourhood, considering all weakness and opportunities, essentially the action plan needs some design principles that could be categorized in five main groups: public open spaces, participation, creating recreational spaces, safety-accessibility and transportation and environment, when each of them has some sub categorizations.

- Public open spaces

- 1- Creating a variety of open spaces: Designing quiet space for intellectual games and physical activities, allocating space for noisy games
- 2- Changing in neighbourhood's land uses and diversity of activities for making them more favourable for children
- 3- Preserving open spaces in neighbourhoods and designing spaces and hangouts for parents and children for meeting and gathering

- 4- Using attractive furniture and elements

- **Participation**
 - 1- Creating spaces for children’s participations and social interactions
 - 2- Adoption of physical interventions with social, economic, environmental, visual and spatial objectives
 - 3- Designing spaces for vendors to fulfil the leisure time and answer daily needs

- **Creating Recreational Spaces**
 - 1- Designing places for parents close to play area
 - 2- Using brown fields in neighborhood as play areas for children
 - 3- Changing inappropriate land uses around public spaces into the one are interesting for children

- **Safety, Accessibility and Transportation**
 - 1- Designing an entrance for neighborhood
 - 2- Enhancing permeability
 - 3- Creating a bike network that encompasses bike specific signage
 - 4- Designing for everyone (disables, elderly, children and etc.)
 - 5- Setting police stations closet public spaces and play areas

- **Environment**
 - 1- Encompassing street vegetation to make soft edges, especially for defining the pedestrian path
 - 2- Planting trees to reduce noises
 - 3- Avoiding the construction of child care centers near large noise sources
 - 4- Designing play areas covered by grass
 - 5- Using flowers to make the environment elegant
 - 6- Locating the waste bin far from children play area

In addition, creating visual attractions, using various and joyful colors, desirable forms for children such as curved forms, combination of volumes and shapes in an interesting way, playing childish music, using nature sounds and letting children to be in nature are all strategies which could help us to make our neighbourhoods child friendly and also encourage them to play in safe outdoor spaces.

Conclusion

The results of this study demonstrate how child friendly environmental is created through a combination of factors on different scales. Providing and developing accessible places with a variety of contents and functions, which support socializing, will give kids chance of making flexible space layouts which is considerably effective on children’s demands and physical and cognitive growth. These kinds of spaces are an adventitious for children to experience new things and learn indirectly while they are playing. Municipalities and urban planners should take an interest in children as users, meet the interest and demands that children have in urban

environment and ensure to the provision and preservation of child-friendly environments. Discussion of goals and measures should involve participation by children themselves, recognizing that different approaches to engaging children and are required across the age spectrum.

The result of survey showed that the neighbourhood had capacity to join to child friendly movement, even though lots of efforts and changes needed. To adjust the Firoozeh neighbourhood to a child friendly environment, it will become increasingly important to establish and operationalize clear policies and legislations that can demonstrate progress towards the overall goal of making the neighbourhood, child friendly.

If children can go to school on their own, go out and play with their friends in the public spaces of the city, also the elderly, the handicapped and the citizens in general will again be able to enjoy the experience of walking and meeting people in the city.

There is much to be done to create child friendly cities. In the development of Child Friendly neighbourhoods, it is imperative that active play and transportation are included in the urban fabric. It is equally important to ensure that there are areas with natural vegetation, including trees, flowers, and other plants that not only provide an environmental benefit to the community, but aid in the promotion of active and creative play. (Enns, 2010)

Although our study offers new support for a relationship between the built environment, outdoor spaces and children's play in the neighbourhood, there are also some limitations. The measures depend on children presence in outdoor spaces within the neighbourhood just observed during fall when climate could affect the number of children on streets.

Also the study just focused on outdoor play in the public space of the neighbourhood, without considering the outdoor play in private backyards and other physical activity that is not play and even sometimes happens as a group of children. Limitations could be easily remedied in future studies.

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