

# Introducing and Implementation of Pocket Parks in Iranian Parks by Using AHP Model (Case Study: Andisheh Park in Qazvin City, Iran)

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**Abstract** Since urban growth and converting the agricultural lands to urban area, green space applications are threatened seriously. One of the key elements of development is accessing and spending the leisure time in green and open space easily. Actually Green space is one of the ways to reduce several different kinds of pollutants efficiently such as gaseous pollutants, environmental pollution, noise, unpleasant odors and other pollutants which are found in air, water and soil and provides a healthier environment for human. According to population growth and urban space, pocket parks are a new and appropriate idea because of less space and availability for local people. In this study pocket park is defining and some important criteria such as locating on the side street, A local use, Easy access for local people(less distance to location), applied freely for the public in all ages, Which are introducing and prioritizing by using Expert choice software and Andisheh Park is our case study.

**Keywords** Green Space, Urban Park, Pocket Park, AHP

## 1. Introduction

Every year the number of people living in urban areas grows by approximately 1.96 %, compared with 0.11 % in rural areas [1]. This worldwide rapid urban growth has major impacts on the social, economic and environmental sustainability of cities [2]. The desire to improve urban sustainability is motivating many city planners to adopt growth strategies that increase residential density, termed 'residential densification' [3-5].

Technology development and the rapid growth of human industry caused the city growth, suburban development and the destruction of green space. Today the majority of the world population lives in the cities which cause the loss of wilderness and rural areas and unfortunately replacing them

with the cities with average qualities. Public areas are the most important part of cities and urban areas where cause the most important communication and interaction between people. The urban areas are included the areas which people have visual and physical access. One of the most important elements of these collections is parks and urban green spaces that play an important role for making citizens' healthier. Green spaces are physical part of the cities that can have a certain functions. Sometimes decorative role (a beautiful landscape of a city) and sometimes the resort (resort) to be accepted [6]. Green space within the city, often in the form of parks, green spaces along streets and gardens are constructed. Then in the urban design views environment adds to the beauty, but also in terms of environmental protection, Recreational services, ecological returns, and act locally track. Parks in Prevents dust and dirt from the air, like forest green and lungs are breathing. Most important green spaces in cities moderating influence of temperature, relative humidity increases, the air soft and absorb dust [7]. Therefore, managers and city planners are thinking about green spots in the city. Unfortunately, due to the rate of population growth and problem of settlement in the cities, especially in the most populated areas the role of green spaces is ignored. Nowadays this problem by creating a small plan park called pocket park partly been resolved. Designers consider the low spaces for parks within blocks (commercial and residential), or local scale Compensation lack of green space in the populated cities such as New York that have developed.

These Pocket parks have been faced welcomed by citizens and become a warm and intimate environment to relax and spend leisure time in a busy day for children, seniors, and staff.

According to the explanations provided and The importance of open space and urban green spaces This paper intended to introduce new ideas and designs of city parks, called pocket parks that recently been conducted in developed countries . Then, using the indices of the model

(AHP) for priority criteria and their realization in the Case Study (Park Qazvin ideas) are examined.

## 2. Theoretical Foundations

### 2.1. Urban Environment

Everyone knows the urban environment as Environmental that humans directly or indirectly related to. And his life and activities are in connection with. He has divided it into two parts. :

a: The natural environment = the human environment in which it had no part in formation of it., rather they are God-given gift, which includes forests, meadows, mountains, plains, rivers, lakes, landscapes and so on are. Constituent elements of the natural environment, including biotic factors (plants and animals) and inanimate factors (soil, climate) b: The human environment or human made environment: the environment refers to the part of the man-made and delivered to his thinking. Based on this classification, the urban environment is among the human environment. Researchers have shown that in today's urban environment social issues and environmental pollution have been existed. One of the factors in the lives of these urban green spaces within cities [8].

The green spaces such as parks are commonly known as a place for fun and games, but it's just not their role in metropolitan environment.

### 2.2. Parks

The "new view" of urban parks calls attention to the broader contributions they can make to the vitality of communities and their residents. These contributions include

- helping youth choose rewarding paths to adulthood by providing programs and opportunities to build physical, intellectual, emotional, and social strength;
- helping new entrants to the workforce find productive jobs by offering decent, entry-level employment opportunities in the community;
- helping community residents improve their health by providing a place to enjoy fresh air and exercise; and
- helping citizens join together to make their communities better, by encouraging them to participate in park planning and management[14].

It is argued, however, that urban parks and open green spaces are of a strategic importance for the quality of life of our increasingly urbanized society. Increasing empirical evidence, in fact, indicates that the presence of natural assets (i.e. urban parks and forests, green belts) and components (i.e. trees, water) in urban contexts contributes to the quality of life in many ways [10].

Types of parks include neighborhood parks, community

parks, recreational parks, city-wide parks, natural parks, and packet parks.

## 3. Pocket Park

Packet Park is the term used to refer to "parks in densely built locations occupying interstitial space between buildings. A packet park is usually one to three city lots [11].

Packets parks are urban open spaces on small scale .These mini-parks provide a safe and inviting environment for surrounding community members. They also meet a variety of needs and functions including: small event space .play areas for children, spaces for relaxing or meeting friends, taking lunch break etc .The benefits of these unique urban spaces often include one or several of the following ideas:

- Benefits the overall ecology of the surrounding environment.
- Help protect and conserve local wildlife, landscape, and heritage.
- Reduce pollution, traffic, and consumption of resources such as oil.
- Empower local residents to make decision; that affect their community.
- Make communities safer and more sociable
- Improve fitness and health
- Regenerate run-down areas [12].

Successful "pocket parks" have four key qualities: they are accessible; allow people to engage in activities; are comfortable spaces and have a good image; and finally, are sociable places: one where people meet each other and take people to when they come to visit [13].

### 3.1. Pocket Park Action Plan

- Find a site
- Site assessment by packet park officer
- Negotiate public access
- Carry out site survey , photographs site and record species present (wildlife trust)
- Negotiate land tenure agreement
- Organize local support (set up packet park management group, hold public consultation)
- Complete all paperwork and governing documents and Apply to district council for planning permission
- List cost to set up project(including land acquisition, legal costs, trees, fencing, tools, signs, paths , etc)
- Apply for funding (lottery , landfill etc)
- Launch project locally(press releases)
- Encouraged and maintain commitment and enthusiasm

### 3.2. Pocket Park Planning and Design

Ideally Packet parks are closely tied to the communities they serve .The design of the park should reflect the specific

interests and needs of its intended users; the residents of the local community. in order to understand the unique political and social complexities of the neighborhood , park organizers should solicit and incorporate the ideas and volunteer efforts of community members, including children. Most community members tend to value and respect their neighborhoods more when they are included in the design and process of creating community spaces. Community members should also plan for regularly scheduled maintenance of the park. Each community should gather and select members to frequently check on the maintenance look, and feel of the park [12].

- 1) Every day, all day public access
- 2) Safe and easy access-appropriate gates and paths etc.
- 3) A welcome sign with the parks name and supported by the name of the park.
- 4) Positive management of wildlife habitats (to increase biodiversity) [15]
- 5) Active and frequent use
- 6) Regular maintenance
- 7) Opportunities for recreational activities
- 8) Community groups and stewardship initiatives [12, 13]

### 3.3. Identifying a Suitable Pocket Park Site

Packet parks can be created in a great variety of different green spaces – disused railway lines, old quarries or former gravel pits, derelict urban land or un-worked farmland, landfill sites, old orchards or disused cemeteries, riverside fields or abandoned millstreams and ponds. Local authorities in particular often have areas of land that they manage that may be suitable for converting into a packet park.

### 3.4. Benefits of Pocket Parks

Large or small, urban or rural, the cultural, social and environmental benefits of Pocket Parks are numerous.

#### 3.4.1. Culturally

- reinforce a positive link between local authorities and communities
- provide venues for heritage and cultural activities
- are cultural assets and a lasting legacy to future generations

#### 3.4.2. Environmentally

- ensure sustainable and economic management of green space
- conserve and improve wildlife habitats through positive management
- raise environmental awareness and the promotion of biodiversity through education and practical conservation projects
- contribute to the maintenance of existing facilities and acquisition of new ones
- promote green tourism and the local economy

#### 3.4.3. Socially

- provide free public access to community green space
- allow local people to make decisions on things affecting their environment and community
- help make safer and more sociable communities through greater contact and interaction
- improve the health, fitness and psychological well-being of people
- equip people with the skills and self-confidence to tackle new challenges
- offer children a safe place to play and learn
- assist with the regeneration of run-down areas [15].

#### 3.4.4. In terms of urban planners

Giving Identity to neighborhood - Increased readability for local people - helping to increase the safety of citizens, especially in the hours of darkness, a favorable environment for the elderly and children in urban environments and consider furniture In accordance with environments and users (Special Flooring, the use of lights, Appropriate bench, children play area, etc) Children's play space in pocket park and is shown in figure 1.

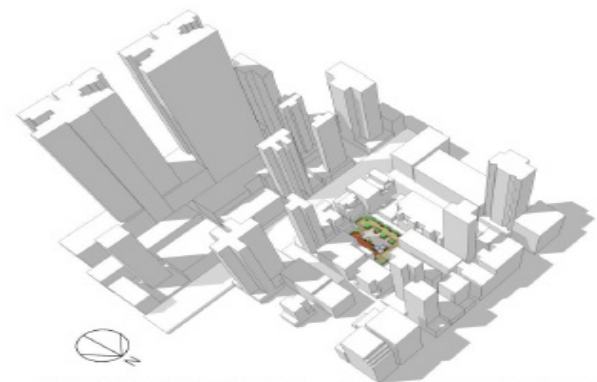


Figure 1. Packet park (Children's play space) [11].

## 4. Materials and Methods

In this research firstly definitions and indicators for assessing the advantages and disadvantages of pocket parks based on library and theoretical studies in the field of production and introduced of the Pocket Park are presented.

Analysis of the pocket park has been taken somehow indicators of cultural features and design neighborhoods (especially Iranian culture). These indicators include: Enclosure, located in the side streets, A local use, Easy

access for local people, using different ages and eventually released to the public and Security. These indicators were then evaluated by experts in the field of urban design and weighting was conducted. Main research (Case study: Andisheh park) data to analyze and prioritize weight and interpretation index defined by field observation sites has been made. Pocket parks indicators are shown in table 1.

#### 4.1. Conceptual Framework of AHP

AHP begins with the identification and prioritization of decision making: the elements include of: goals, criteria, or specifications, and options that may be used in the priorities. The process of identifying Elements and the relationship between them leads to the creation of a hierarchical structure. This hierarchy levels is because of summarizing decision making levels in different Surfaces .so the first step

of AHP is forming a hierarchical structure that the subject ,criteria and alternatives between them is shown. The next four steps in AHP contains calculating the weight of importance coefficients of criteria and sub criteria, calculate the weight of index options (options and calculate the final score of the logical consistency of judgments) . The reason this model can be compared to other models is that in the model can quantify the qualitative indicators, which the previous models did not have this ability.

Furthermore, this model addition to use the statistics of collective also uses the collective participation. That among the reasons could be used in the present study the most important [17]. The fundamental scale of absolute numbers and weight of pocket park criteria are shown in table 2&3 respectively.

**Table 1.** Pocket parks Indicators

Security (Both physically and socially the local access and knowledge of the location of each)	applied freely for the public in all ages	Easy access for local people(less distance to location)	A local use	Located at the side street	Enclosure
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**Table 2.** The fundamental scale of absolute numbers[18]

Explanation	Definition	Rating (extremely important)
The research objective criteria have equal importance.	Equal importance	1
Experience shows that importance R i is greater than j	Slightly more important than	3
Experience shows that i importance is much more than j	More importance	5
Experience shows that i importance is much more than j.	Much more importance	7
Much more importance than j to i has been proven conclusively.	The absolute importance	9
When there is a middle position.		2,4,6,8

**Table 3.** Weight of pocket park criteria

Criteria	Enclosure	Located at the side street	A local use	Easy access for local people	applied freely for the public in all ages	Security	priority
Enclosure	1	3	1/2	2	1/2	1/3	0.123
Located at the side street	1/3	1	1/4	1/2	1/3	1/5	0.052
A local use	2	4	1	3	2	1/2	0.235
Easy access for local people	1/2	2	1/3	1	1/2	1/4	0.081
applied freely for the public in all ages	2	3	1/2	2	1	1/2	0.167
Security	3	5	2	4	2	1	0.343

## 4.2. Case Study

The case study of our project is Andisheh Park which is located in Yas alley, Ferdowsi Street, Qazvin, Iran. Its area is about 6,000 meters where is enclosed through buildings and is created in adjacent of side streets. It was established for relaxation and recreation of local residents in 1390 which can be assumed the first pocket park in Qazvin Province. Evaluation period of realization of criteria and the fulfillment of the criteria and the weights of the Andisheh pocket park are shown in table 4&5 respectively.

**Table 4.** Evaluation period of realization of criteria

week	0-3
average	3-6
good	6-9

**Table 5.** The fulfillment of the criteria and the weights of the Andisheh pocket park in Qazvin, Iran.

Pocket park's criteria	Realization of criteria	Final weight
Enclosure	7	0.8861
Located at the side street	6	0.312
A local use	3	0.705
Easy access for local people	8	1.336
applied freely for the public in all ages	2	0.162
Security	3	1.029
The ultimate collection	-	4.405

## 5. Conclusion

Study findings suggest that the rural population growth as a result of migration city- Rural is the Has created the Industrial Revolution in Europe. Phenomenon that was Firstly, cities grow much faster and secondly, the desirability of living in these cities will be affected. The phenomenon of urban growth in developing countries with more intensity and the duration was less appear to have led to the emergence of urban problems due to financial problems and technological. In this country no answer is given to these problems. So now you can see the cities of underdeveloped countries, Chaos of spaces, unsuitable location for inappropriate usages in the cities according to social and economic al characteristics of it. The usage of green space faced with a serious threat due to the city indiscriminate, development and conversion of agricultural land to urban gardens. Today, having facilities to spend leisure time in the open spaces and green spaces is one of the main pillars of development. Creating green space is one of the ways to efficiently controlled environmental contaminants including gaseous pollutants, noise, unpleasant smells and other pollutants in air, water, soil and

provides a healthier environment for humans(2). Therefore addressing planning for green space (urban park) is the best option to reduce these problems. According to the growing population of urban space, new ideas of pocket parks because of Occupy less space and have an access for local people is one of the most convenient ways. In this study several kinds of pocket park's criteria were presented. Then the criteria mentioned above were evaluated in respect to the case study of Qazvin Andisheh Park, it was determined that the final priorities of the criteria examined in this park, are between the average range of (3-6) and thus, it could be concluded that this park somehow has the factors of a pocket park and if, some of the factors are improved, it can be distinguished as one. These factors are including: safety, local usage and applied for all ages that were weaker than the other factors and their functional weaknesses were determined in the assessments. It is hoped that with the improvement of the factors of pocket park in the Andisheh Park and the creation of a successful example of pocket parks, Iran get closer to having this kind of parks in its urban spaces and benefit from their many qualities.

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