"POCKET PARKS" – ROLE AND BENEFITS OF THEIR CREATION AND CONTRIBUTION TO THE ENVIRONMENTAL UPGRADING OF BIG CITIES.

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ABSTRACT

In modern big cities nowadays, the absence of green spaces in the urban fabric is a common issue resulting in uncomfortable environmental conditions, especially in high density areas. "Pocket Parks" are small green spaces created on unexploited urban gaps. As proven from international experience, these spaces can contribute significantly in upgrading the urban environment and in improving the quality of life in the city. The present study investigates the utility of integrating Pocket Parks into the urban fabric and their contribution to the improvement of the urban environment and the conditions and quality of life. A survey was conducted in order to investigate the views of Athens' residents regarding the utility and benefits of creating Pocket Parks in the city centre and secondarily in the city's neighbourhoods. The questionnaire method was used to carry out the survey through which six Pocket Parks were evaluated. Subsequently the participants evaluated the individual characteristics of Pocket Parks, the quality and quantity of Athens' green spaces, and the overall benefits of urban green and Pocket Parks. Conclusions were drawn from the analysis of the survey's results about the residents' predisposition for the creation of Pocket Parks in the city and their contribution to the improvement of living conditions and quality of life and the environmental upgrading.

KEYWORDS

Environmental upgrading; Green spaces; Pocket parks; Urban green; Urban outdoor spaces

1. INTRODUCTION

The majority of studies internationally, regarding the creation of Pocket Parks and their integration into the urban fabric, focus on their contribution to recreation, encouragement of physical activity and their overall beneficial effect on cities' residents' mental health. In some cases, their impact on urban climatic conditions, environmental benefits and contribution to sustainable urban development are also examined.

Pocket Parks are small scale urban outdoor spaces found in high density urban areas. The standard conditions for their creation are: maximum area up to 5000m^2, existence of some degree of vegetation, visible entrance and distinct borders, which separate the park from the surrounding area [1].

Lack and inadequacy of green spaces and

spaces for entertainment in big cities, as well as lack of access to them locally, and the need to improve quality of life led to the conception of the idea of Pocket Parks. The densification of big cities, which makes finding of unexploited gaps in order to create new public spaces difficult, also contributed to that conception [2]. Due to the densification of the cities the interest regarding the design turned to smaller spaces/parks [3]. These small spaces into the urban fabric can be considered as a kind of 'transitional green' in order to satisfy human need for contact with nature, close to home, and to complement larger parks [4], creating a network of green spaces which can maximize the benefits of green in the city [5].

The common elements in most definitions of Pocket Parks are area size (which usually does not exceed 1000 m^2), the presence of deciduous trees, street visibility, movable seating, water features and locality. Due to their small size the variety of activities included is limited; hence appearance and design vary depending on the use for which they are intended.

Their differences can be significant depending on whether they are spaces for physical activity or quiet places intended for rest [1].

Recognition of the contribution of green spaces to the urban environment, in regards to residents' well-being, makes their availability in the city an important object of planning and research [6]. The widespread implementation of the compact city model, has resulted in man being detached from nature and spending most of his daily life indoors [1]. Nowadays it is generally accepted that urban green spaces are essential in functional and sustainable cities, as they offer opportunities for recreation, support human health, contribute to the preservation of cultural identity of cities, contribute to the improvement of urban environment, help preserve biodiversity and can also contribute to issues such as waste management, flood prevention, etc. [7].

The present study investigates the utility of integrating Pocket Parks into the urban fabric and their contribution to the urban environmental upgrading and the conditions, quality of life and health of cities' residents.

2. METHODOLOGY

Initially a research was carried out on urban green, urban outdoor spaces, urban design and small green spaces "Pocket Parks". Additionally the study focuses on the characteristics of these spaces and their importance for the urban environment. The method used for the survey was that of the questionnaire. A research on Pocket Parks from the international practice, examples of successful implementation of the concept, was conducted in order to be used in the questionnaire. Specifically, six Pocket Parks with special features from around the world were selected, 24 photos of which were used in combination with a hypothetical scenario for the compilation of the questionnaire, which was addressed to residents of Athens' urban area for evaluation.

It should be noted that similar methodology, using photographs and scenarios for the evaluation of urban parks, was used by Nordh & Østby (2013), as well as in previous studies by Nordh et al. (2009, 2012) (reference in Nordh & Østby, 2013).

Four parks from the USA, one from Europe and one from Australia were chosen for the evaluation. The choice of parks was made based on the different designs, in order to show the response of the people to the different types of spaces. Three of the parks are enclosed spaces and three are open (Figures 1 and 2).

Figure 1. Enclosed parks, [8]

Figure 2. Open parks, [9]

The majority of the parks have a 'key element' that characterizes them and distinguishes them from the rest, such as the 6-meter high waterfall in Paley Park, the lush waterfall in Greenacre Park, the "green wall" and the sculptures in 555 Mission Street Plaza, the floating park in Merchant Square; while two parks with less intense features have been selected (one from each category, enclosed - open), namely John F. Collins Park and Balfour Street Pocket Park, which however, do not lack aesthetic and useful value, as they have more discreet focal points but also have lush vegetation, seating areas, shaded areas and the presence of the liquid element.

The survey was conducted online and lasted from June 8th to July 8th 2020. 133 responses were collected, 120 of which were used for the survey results[1].

Additionally, through the same questionnaire, the survey was extended to the evaluation of Athens' green spaces and the overall benefits of urban green and Pocket Parks. Data collected from the survey were analyzed using statistical packages (Microsoft Excel and IBM SPSS Statistics).

3. RESULTS AND DISCUSSION

3.1 Evaluation of Pocket Parks around the world

Participants show a preference for 'enclosed' parks over 'open' ones. Paley Park was the first in preferences among the six Pocket Parks (confirming the preference for 'enclosed' parks), while Greenacre Park was the second most preferred (Figure 3).

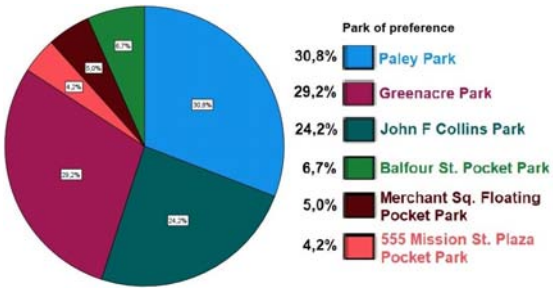

Figure 3. Park of preference

3.1.1 Natural elements

Natural elements (tall trees, grass, shrubs/small trees, flowers/ornamental plants, water features) were evaluated from quite to very important, especially tall trees and the water features (Figures 4 and 5).

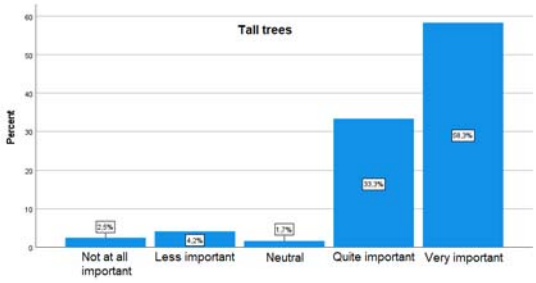

Figure 4. Evaluation of natural elements - Tall trees

[1] The 13 questionnaires excluded did not meet the basic condition which was the participants being residents of Athens.

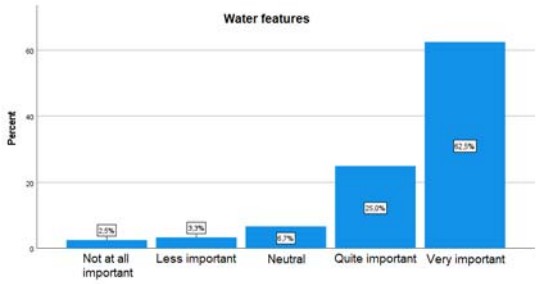

Figure 5. Evaluation of natural elements – Water features

3.1.2 Design features

The most important features, in terms of the design of the space are safety, existence of shaded areas (Figure 6) and equipment of the park with comfortable seating (Figure 7). Sunlight in the space was evaluated as a quite important characteristic but not as much as the existence of shaded areas, a fact justified given the climatic conditions prevailing in Greece – high temperatures and many hours of sunshine. For the same reasons the use of artificial lighting was rated by most of the participants as less important to neither unimportant nor important (neutral). The ability to sit alone was evaluated as a quite important feature, while the presence of shops and, food and drinks selling spaces inside the parks is considered rather unimportant (neutral).

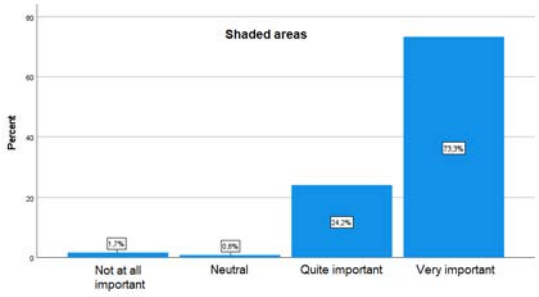

Figure 6. Design features evaluation – Shaded areas

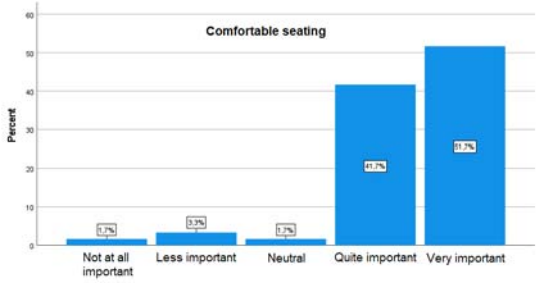

Figure 7. Design features evaluation – Comfortable seating

3.1.3 Surrounding area characteristics

Regarding the characteristics of the surrounding area around the parks, quiet and isolation from the street are considered by the majority of participants as quite to very important characteristics. Safety in the area is considered, as expected, as important as safety inside the parks. The existence of shops in the area around the park is considered rather unimportant (neutral). The view of the environment outside the parks seems to be of great importance for a number of the participants, as shown by some of the answers given, when asked to report additional features wanted in Pocket Parks (open horizon references, altitude, absence of tall buildings).

3.2 Evaluation of Pocket Parks' features in general

3.2.1 Features that promote rest and restoration

The rest and restoration feeling of the visitor seems to depend directly on the existence of plants and vegetation, tall trees and water elements, while a calm and safe environment relaxes and renews the visitor. An attractive design of the space seems to be of great importance, while less importance, compared to the other features, is given to isolation, although it does help.

3.2.2 Features with negative effect

The evaluation of characteristics with negative effect showed that a very large percentage of the participants consider the absence of vegetation and trees as an extremely negative characteristic. Noise was also rated extremely negative in a park, as expected. A bad or rough design of the park is also considered very negative, while a very exposed space seems to have less negative effect, compared to the other features. Lack of security has proven to be the characteristic with the most negative effect. Furthermore, many of the participants stressed the need for safeguarding of these spaces in order for them to not become, as mentioned, gathering places for people with

delinquent or criminal behavior or places of delinquent activities, which is the case in many public open spaces in cities.

3.2.3 Reasons for visiting Pocket Parks – Activities

As shown in Figure 8, the main reasons for visiting Pocket Parks were the following:

- 'Short break / break from work', was the first choice of participants (36.7% percentage) regarding the activities for which they would choose a Pocket Park, which shows that participants recognize the basic function of these spaces.
- Relaxation / meditation' was the answer chosen by quite a large percentage of the participants (25.8%).
- Contact with nature' was indicated as the main reason for visiting a Pocket Park by the 20% of the participants.

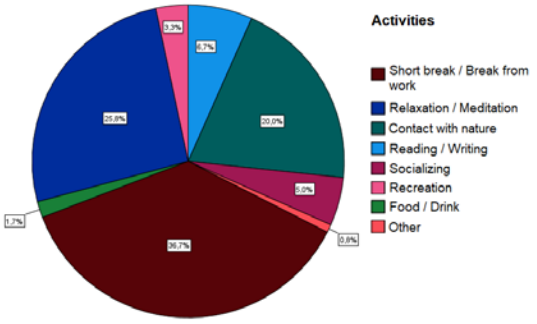

Figure 8. Reasons for visiting Pocket Parks

3.2.4 Safety importance

Safety, as also shown by the previous results, is the most important criterion regarding the use of parks by the public, as the existence of security inside and outside the parks was assessed as a very important feature (Figure 9).

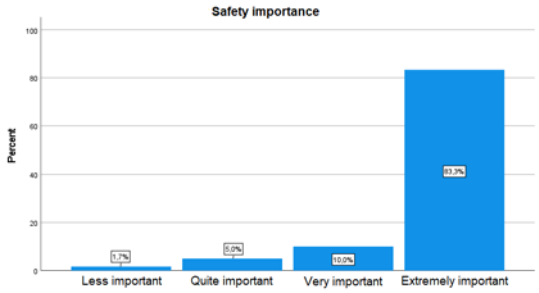

Figure 9. Safety importance evaluation

3.2.5 Utility of Pocket Parks in neighbourhoods

Regarding the utility of the existence of Pocket Parks close to home, additionally to the city centre, the majority of the participants consider that it would be extremely useful and especially as close to home as possible, in order to ensure accessibility to them without using a car (Figure 10).

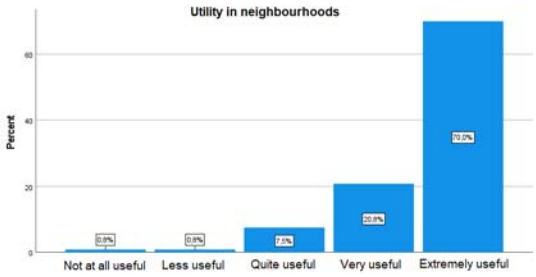

Figure 10. Utility in neighbourhoods

3.3 Evaluation of the urban green in the city of Athens

3.3.1 Evaluation of quantity and quality of the urban green in the centre of Athens

The degree of the participants' satisfaction with quantity and quality of urban green in the centre of Athens appears low, as expected given the lack of green spaces and the condition of the existing green spaces in the city.

3.3.2 Evaluation of quantity and quality of the urban green in neighbourhoods

A slightly better picture, overall, appears in terms of the degree of satisfaction with quantity and quality of the urban green in neighbourhoods, however the degree of satisfaction varies, obviously due to the fact that in the city of Athens there are areas with more or less green, which may be in better or worse condition. It is worth mentioning, however, that only a small percentage assesses quantity and quality of urban green in the area they live in as very satisfactory.

3.4 Benefits of urban green and Pocket Parks

3.4.1 Benefits of urban green

The benefits of urban green are recognized by the majority of the participants, mainly in terms of its contribution to human health (Figure 11), the improvement of microclimate

(Figure 12), the reduction of stress, the reduction of temperature, the cooling and filtering of air from dust and pollutants, and also in improving thermal comfort, increasing biodiversity and promoting social relations.

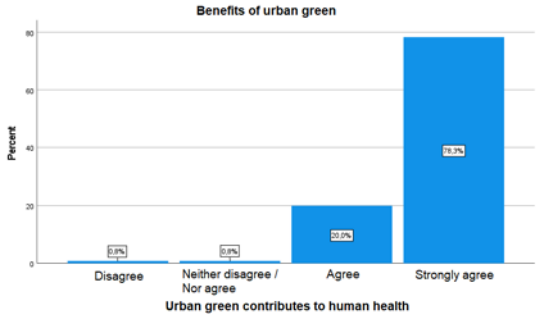

Figure 11. Urban green contributes to human health

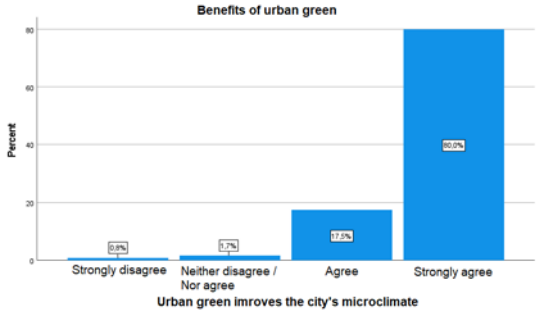

Figure 12. Urban green improves the city's microclimate

3.4.2 Benefits of Pocket Parks

In addition to the benefits of urban green, which is a widespread issue, the present study showed that although the concept of Pocket Parks is new or even, in some cases, unknown to the public, participants recognize the benefits that can result from creating such spaces and their integration into the urban fabric. The contribution of these spaces to the improvement of microclimate, thermal comfort, biodiversity and social relations are largely acknowledged by the participants, while to an even greater extent they acknowledge the contribution of Pocket Parks to the upgrading of the city's environment (Figure 13) and the improvement of living conditions (Figure 14) and quality of life (Figure 15), which confirms the study's allegation about the utility of Pocket Parks in modern cities.

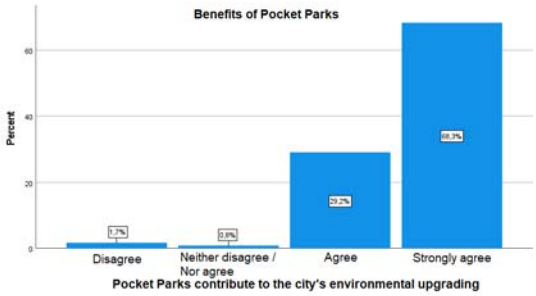

Figure 13. Pocket Parks contribute to the city's environmental upgrading

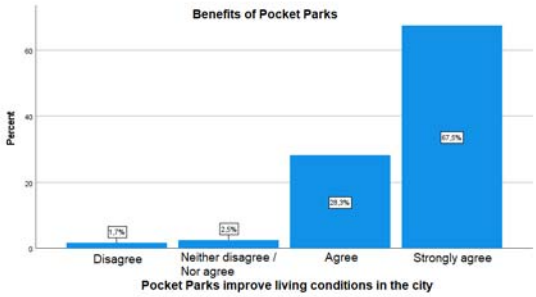

Figure 14. Pocket Parks improve living conditions in the city

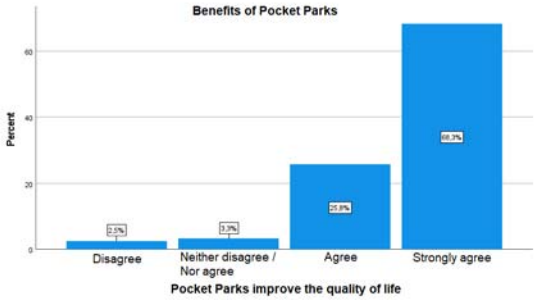

Figure 15. Pocket Parks improve the quality of life

4. CONCLUSIONS

The results of the survey have shown that: The presence of natural elements, especially tall trees and water features, was evaluated as very important. The existence of shaded areas, comfortable seating and safety in the park are considered very important regarding the design of the space. In terms of external conditions, quiet, isolation from the road and safety in the area are the most important features. The presence of vegetation, water features and a calm and safe environment contribute the most to rest and restoration, whereas 'short break', 'relaxation' and 'contact with nature' are the main reasons for use. The degree of satisfaction with the quality and quantity of urban green in Athens appears to be low. The

existence of Pocket Parks is considered useful in neighborhoods, as close to home as possible. The benefits of urban green are recognized, as are the benefits of Pocket Parks although the concept is not widespread. The participants show a positive predisposition for the creation of Pocket Parks in the city and consider that they can contribute to the improvement of living conditions and quality of life, and the environmental upgrading.

Overall the research has shown that unexploited and abandoned spaces found in the urban fabric, can be used in order to create and develop new green spaces in the city, such as Pocket Parks, which can make a decisive contribution to the improvement of living conditions, to the residents' quality of life and the city's environmental upgrading.

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