REVISTA
CIÊNCIA E SUSTENTABILIDADE
ISSN 2447-4606

Comfort and welfare assessment of public squares in the municipality of Crato-Ce

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Abstract

The urbanization process of the majority of the Brazilian cities has occurred without appropriate planning that would consider the importance of environmental components. Nevertheless, it is widely known that the quality of urban life depends on a variety of factors, such as infrastructure, socioeconomic development and environment related aspects. With regard to these last factors, public green areas are essential for the maintenance of public welfare and, among these places, the public squares function as social interactive and leisure options for citizens. Due to their beauty, the squares contribute to urban ornamentation and usually host civic or religious events. Thereby, this study aimed to characterization the social and environmental role played by the public squares in the municipality of Crato-CE. As a methodological approach, bibliographic researches, as well as, the application of 50 questionnaires have provided the necessary information. The results suggest that there is a diversification of the squares frequenters at different times of the day, in addition to a variety of reasons that influence people to stay at or pass by these places. It was perceived that being at squares stimulates positive feelings, as the feeling

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CIÊNCIA E SUSTENTABILIDADE
ISSN 2447-4606 v.5, n. 1, jan-jun, 2019

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of happiness described by 46% of the interviewers, freedom experienced by 30% and contact with nature by 15%. Therefore, it is undoubtedly possible to emphasize the importance of public squares for the municipality and the wellbeing of its citizens.

Keywords: Public squares. Quality of life. Environmental comfort. Crato-CE.

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INTRODUCTION

The world population growth is a leading factor of the urbanization process, changing rural areas into urban zones, which can whether be residential ones or economically active ones. Nevertheless, when unplanned urbanization occurs, it may cause significant environmental impacts. Environmental issues are usually considered among the most challenging difficulties of the twenty-first century and those related to sudden urbanization have been aggravated throughout the years. As examples, the commonly discussed are solid wastes disposal, urban traffic, drainage, rising temperatures, formation of urban heat islands, water bodies contamination, air pollution, floods and reduction of green areas within urban territories (SILVA, 2014).

Since the 60's, most Brazilian cities have undergone notorious urbanization process, which has negatively affected the wellbeing of small and large cities dwellers. The absence of environmentally oriented urban planning is probably the main aggravator of this situation (LOBODA, 2009).

Many authors suggest that quality of life in cities is directly related to infrastructure, socioeconomic development and environmental aspects. Regard to this last factor, it is possible to point out the relevance of green public areas for enhancing mental and physical health (PINA, 2011).

Among a variety of outdoor places, the green areas are considered special due to the occurrence of abundant vegetation. Emphasizes that these areas must meet three main functions, which are the environmental, esthetic and leisure ones (NUCCI, 1999). They must benefit citizens and respect recreational requirements, thus, contributing to environmental preservation.

Green areas as outdoor spaces that, in addition of being of common use, possess some type of vegetation (spontaneously grown or planted, native or exotic) that may benefit natural processes such as photosynthesis, shadowing, soil permeability, biodiversity conservation, mitigating the adverse effects of noise and atmospheric pollution, as well as playing a role in social, ecologic, scientific and cultural domains (BENINI, 2011).

As examples of green areas, it is possible to cite squares, parks, gardens, among others. As to the squares, those classified as totally public places are addressed to leisure, socialization, tourism, civic and religious activities, as well as

urban ornamentation, given their intrinsic beauty (SILVA, 2008).

By reason of their relatively small area, the public squares can be distributed throughout the city, alleviating urban stress factors. Furthermore, as physical and psychological health promoters, the squares must always present functionality and remain in appropriate use conditions (LEE, 2011).

In many Brazilian capitals, the squares have become a common urban planning component, especially thanks to their potential of social, environmental and touristic improvement (BARROS, 2003). Whereas in the countryside, these places reveal the subjectivity and community spirit of a city's founding point, which fundaments studies on public squares located in smaller urban areas (ANGELIS, 2004).

Crato municipality is located in the south region of Ceará and is considered one of the most important cities in Cariri metropolitan area. It possesses a 1.177km² territorial area and a total population of 129.662 citizens, resulting in a demographic density of 103,21 people per km² (IBGE, 2010). Owing to the proximity to Araripe plateau and to the National Araripe Forest, the municipality presents valuable natural resources, as water springs and endemic species. The city is also known for trails and recreational clubs that intensify ecotourism and scientific development (CORDEIRO, 2015).

It is also relevant to point out that Crato is nationally known for its cultural events, highlighting Expocrato, which is a farming exposition of significant leisure and economic importance. Another striking aspect of this municipality is its public squares, underscoring Sé square, the postcard of the city. Siqueira Campos square is best known for hosting cultural and artistic presentations, whereas Alexandre Arrais square is frequented because of its infrastructure and physical exercise equipment. For last, Francisco Sá square has become a comfortable bus terminal.

In this context, this study aims to analyze the role of public squares in Crato municipality.

METHODOLOGY

Bibliographic research was necessary to collect data on localization and identification of public squares in the municipality. Posteriorly, the study area was

Ciência e Sustentabilidade - CeS. v.5, n. 1, p.123-141, jan./jun. 2019
http://dx.doi.org/10.33809/2447-4606.5120191123-141

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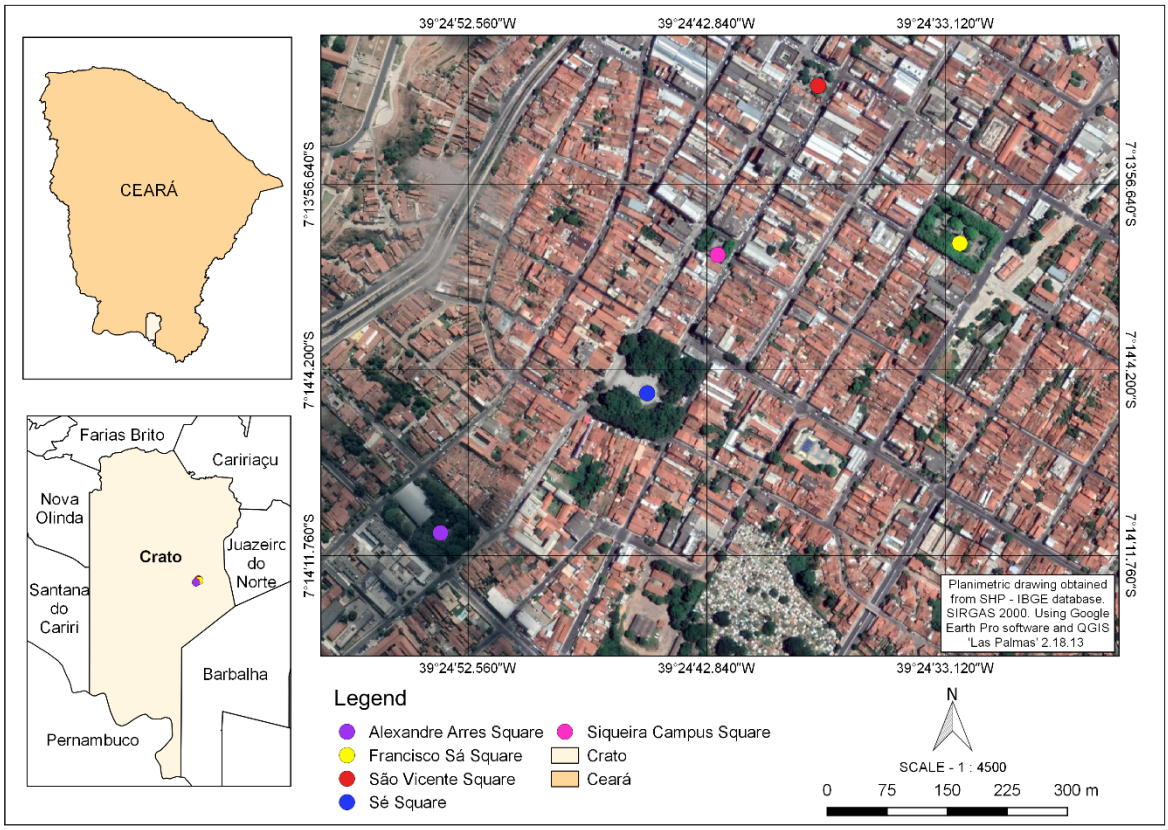
selected, including the five most important municipal squares, which are located downtown (Map 01).Bibliographic research was necessary to collect data on localization and identification of public squares in the municipality. Posteriorly, the study area was selected, including the five most important municipal squares, which are located downtown (Map 01).

Map. 1 - Location of researched squares



Subsequently, field examinations were required for the description of the squares regard their main characteristics and components. By the occasion of these visits, multiple choice and discursive questionnaires were applied to squares frequenters. 50 subjects have answered the questionnaires at different times of the day, between the twenty-seventh of February and the second of March, 2018. The questionnaires were composed of ten questions, objecting data collection about:

- Interviewer's gender
- Frequency of Squares use
- Motivation for de taxi frequenting squares
- Feelings related to being at green areas
- Improvement suggestions

After the interviews, the collected data based further analysis.

RESULTS AND DISCUSSION

The following analysis involves the evaluation of data on Siqueira Campos Square, Juarez Távora Square, Sé Square, Alexandre Arrais Square and Francisco Sá square, all located downtown. Spaces that can be considered as actions of a good urbanization in the studied city, for being planned and sought a balance between the environment and other urban constructions in the city. The results will be explained in two topics, the first discusses intrinsic aspects of each square and the second exposes the information acquired by the questionnaire application.

Public Squares Characterization

Siqueira Campos Square

Many cultural events occur at this square, once there is a wood roof stage at the center. As to commercial establishments, there is a restaurant and a snack bar at the corner. Sideways, there is a cabstand and a motorcycle taxi stand.

As to the infrastructure, the bench seats are wide and made of wood, without wax cover, shadowed only at its sides by two native trees. The vegetation of the square is relatively uniform. There are four phone booths, nevertheless, there are no telephones in two of them and, as to the remaining ones, only one is working. In front of the stage, there is a big and malfunctioning metal digital clock. Another component is two tables for board games playing, as chess and checkers. Close to the tables, there is a magazine store. The illumination is performed by thirteen reflectors, not all of which

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functioning by the time of the research. There are also recycling containers, however, by the research period, almost all of them were damaged.

Another verified problem was the deposition of leaves and branches, which demands more urban cleaning and gardening professionals. (Figure 01).

Fig. 1 - Siqueira Campos Square

Source: Authors, 2018.

Juarez Távora Square

Located in front of São Vicente Férrer Church, as known as São Vicente square, it is the most crowded squared during street trade operation. At the center of the square, there is a poorly painted monument, the bench seats are wide and made of wood, without wax cover and badly shadowed, due to trees lack of diversity and sideways positioning.

The cabstand is located at the side of the square, facing the church. At the same side, there are five board games tables whose squares have been removed. There are

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phone booths, nevertheless, there is no phone in one of them and, among the remaining phone booths, only one phone is operational. The square still possesses recycling containers and twelve reflectors, however, illumination complaints are verified. There are also street kiosks that open in the morning and in the afternoon. There are stores at one of its sides and a magazine store (Figure 02).

Fig. 2 - Juaréz Távora square

Source: authors, 2018.

Sé Square

It is a hectic square where many social events take place. Sé square is located in front of Matrix Church, Nossa Senhora da Penha Parish.

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As to commercial activities, many stalls and kiosks that open at nighttime have been situated at the square. There is a water fountain at the center of the square that rarely works. Other infrastructure components include: phone booths (without operational phones), nonoperational cash machines and wide wood bench seats shadowed by centenarian trees of the same species (low diversity), nevertheless there is no shadowed spots at the center of the square.

Its parking lot is completely shadowed by trees and there is still a cabstand and motorcycle taxi stand close to a magazine store.

After the research, a park for under seven years old children was built (figure 03).

Fig. 3 - Sé square

Source: Authors, 2018.

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Alexandre Arraes Square

This square is best known for its physical exercises equipment, which includes: walking track throughout the square (even though repairing is needed due to holes in the pathway); roofed court; A park, at one side, which also requires repairing; five phone booths, three of which actually possess phones; recycling containers. Its bench seats are wide, made of wood, without wax cover and all of them are shadowed, given the great diversity of tree species at this square, which includes fructiferous trees and centenarian ones.

Another characteristic is the presence of few stalls that only open in the morning and in the afternoon; a bus stop, a cabstand and motorcycle taxi stand. This square is situated close to a hospital. (Figure 04).

Fig. 4 - Alexandre Arraes Square

Source: Authors, 2018.

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Francisco Sá Square

This square is commonly known as Cristo Reis Square, because of the Christ monument at the center of the square with a nonfunctioning clock. As to the infrastructure components, there are two water fountains at its sides (however none of them work), old wood bench seats, three phone booths (only two actually possess phones), trashes made of concrete. At night, the square is poorly illuminated, which, unfortunately, enables robs and drug use.

Regard the vegetation, there are huge native species, but not a significant diversification.

At this square, is located the bus terminal, as well as cabstand and motorcycle taxi stand at its sides. There were also stalls open at different times of the day (figure 05).

Fig. 5 - Francisco Sá Square

Source: Authors, 2018.

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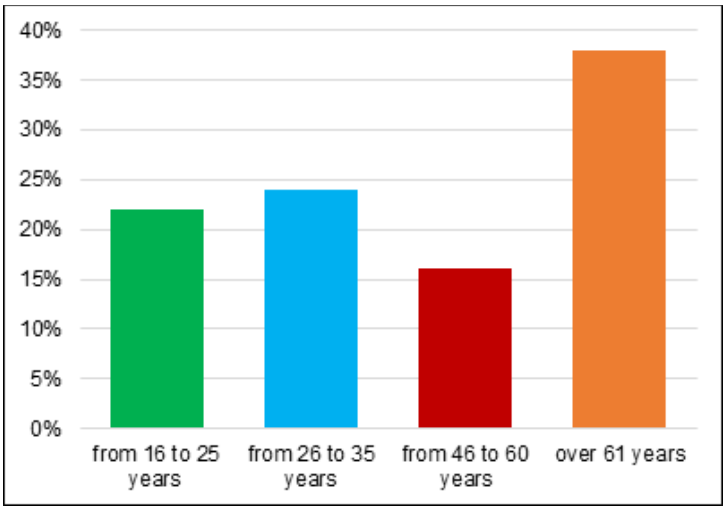
Frequenters Evaluation

Among the interviewed, 80% were male and 20%, female. 38% were above 61 years old, 24% were between 26 and 35 and 22% were from 16 to 25 years old. As demonstrated by graphic 01, the data reveals that third aged people represent the majority of the frequenters.

Grap. 1 - Age of the squares frequenters, Crato-Ce



Source: authors, 2018.

As to graphic 02 data, from 7:00 a.m to 7:59 a.m., 13% of the subjects use to walk and exercise. The square is usually more frequented from 8:00 to 11:59 (26% of the interviewers and from 14:00 p.m to 15:59 p.m (18%), which is justified by the market activity.

From midday to 1:59 p.m, the square is commonly a place for resting after lunch time. By the evening, the physically active public returns.

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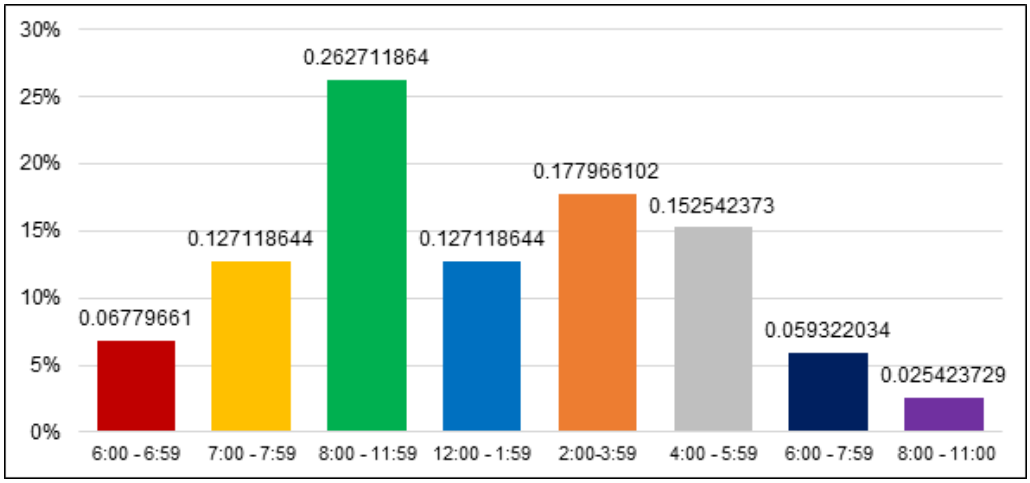
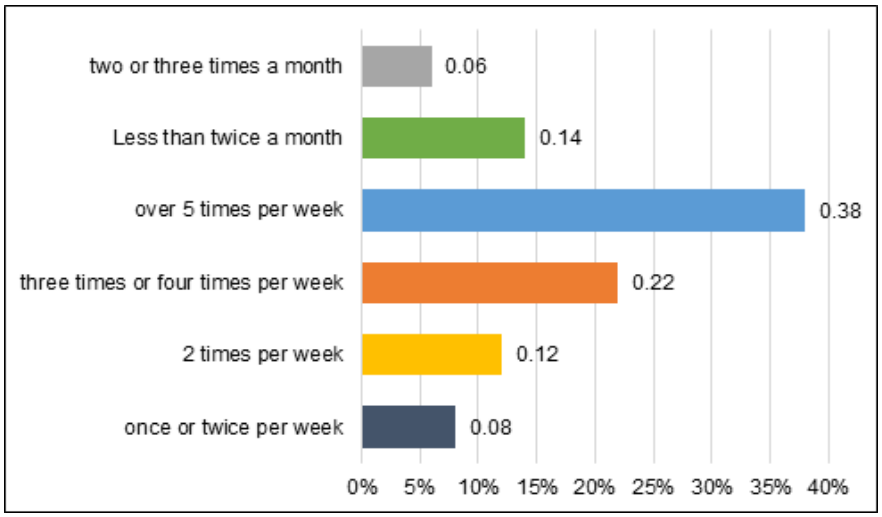
Grap. 2 - Visitation schedule of Crato Squares



Source: authors, 2018.

By analyzing the frequency of use of the square, a significant use was verified weekly, once 38% of the interviewed frequenters the square five times in the week, 22% from three to four times and only 6% twice or three times per month (Graphic 03). The frequency is justified by the location (downtown), which enables the access. The 6% of the interviewers, who claimed to frequent squares only twice or three times per month, live in the surrounding municipalities.

Grap. 3 - Frequency of use of Squares in Crato



Source: Authors, 2018.

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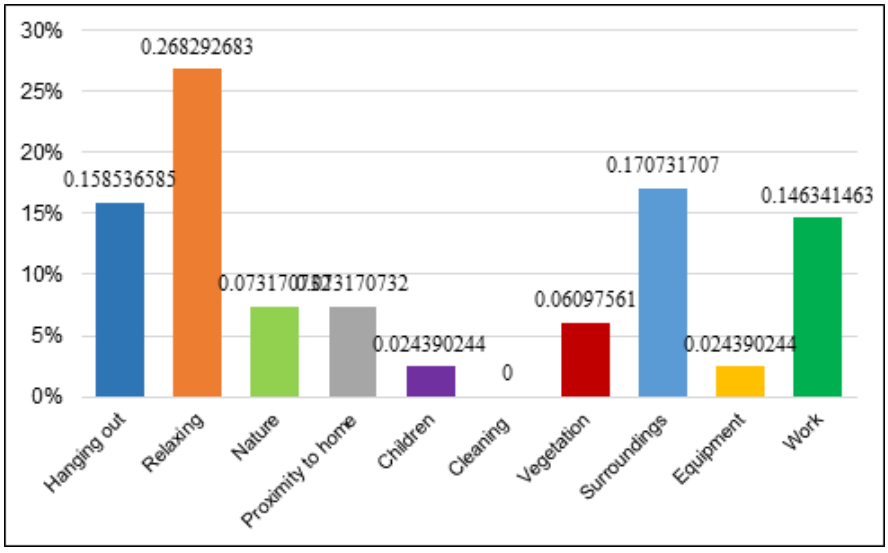
The reasons that motivate people to visit green areas are sports practice, relaxing walk, among others. In agreement with graphic 04, the motivations found in this research confirm this statement, once 27% affirm that visit the squares to relax, especially due to the thermal comfort. The studied squares are situated at strategic sites downtown, which provides proximity to churches, hospitals, snack bars, restaurants and market in general. This aspect has been accounted as extremely relevant (17% of the interviewers). The beauty of these places because of the quantity of trees turn them into leisure sites (16%) and 15% of the frequenters use these areas as work places, as the snack and drinks sellers.

Grap. 4 - Motives of the frequency of squares in Crato.



Source: Authors, 2018.

Among the feelings experienced at these places, it was possible to cite happiness (46%), freedom (30%) nature contact (15%) (Graphic 05). The contact with nature enhances people vitality, in addition of helping to avoid burn out feelings and contributes directly to the feelings of happiness and welfare. In this study, 90% of the individuals report an increase of energy when they exercise outdoors (HAGEN, 2010).

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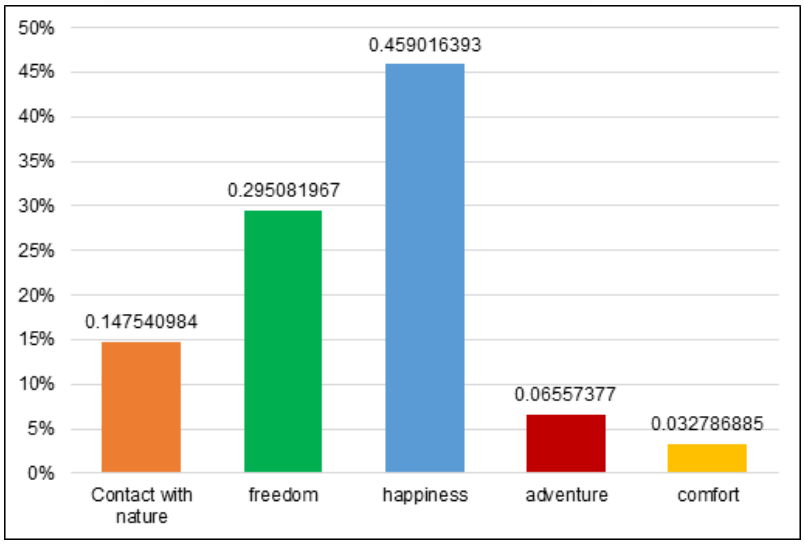
Grap. 5 - Feelings reported at squares.



Source: authors, 2018.

Gómez (2014) presented similar results regard the feelings provided by urban green areas in Coimbra, Portugal and in Salamanca, Spain. The main feelings reported by the interviewers were happiness, freedom, contact with nature, among others. In these cities, two in three subjects affirmed that feel well in contact with nature, which gives them the freedom feeling verified in Coimbra (45%) and Salamanca (36,9%).

In order to make these places even more pleasant, 33% of the interviewed suggested improvements in maintenance and cleaning, as well as, physical activity equipment fixing (29%). Another suggestion is the enhancement of public security within and around the squares. Regard the vegetation, 18% of the individuals suggested the increase and diversity of tree species (Graphic 06).

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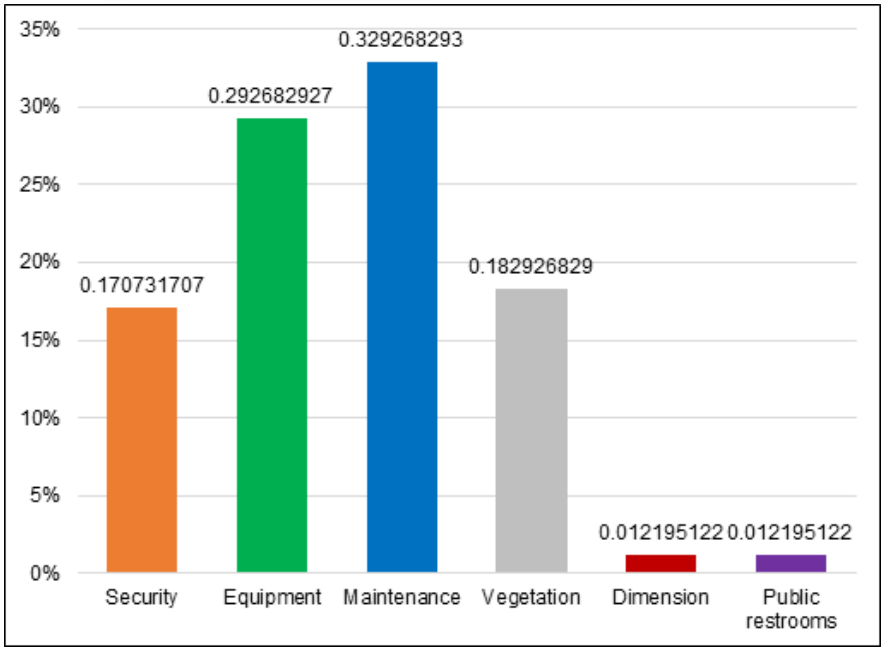
ISSN 2447-4606 v.5, n. 1, jan-jun, 2019

Grap. 6 - Improvement demands of public squares in Crato, Ce



Source: Authors, 2018.

FINAL CONSIDERATIONS

Based on this study, the importance of public squares is easily perceived in Crato-Ce. This relevance is not limited only to ornamentation aspects, given the direct influence on people's quality of life, as well as urban economy and social interaction. Due to the strategic location (downtown), There is a considerable number of frequenters of these areas, who constitute different social groups at different times of the day. It was also verified that not only infrastructure aspects influence frequency, but also the surrounding activities. Among the motivations to frequent these places, the research points out the search for a relaxing place, due to the vegetation that provides thermal comfort and contact with nature.

It is emphasized that the city is in the semi-arid, with predominant warm climate, and the composition of the vegetation generally attenuates of solar radiation and influence on the temperature humidity in the surrounding areas, that is, these squares offer a great environmental service.

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Given the benefits offered by the squares, one can consider them examples of good urbanization. However, simple improvements suggested by the frequenters, such as maintenance improvements and increase of public security, would stimulate people to frequent these areas more often.

From the exposed, we suggest that public authorities of the municipality work at the enhancement of these urban green areas use, as well as investment on public policy to fictionalize and maintain Crato public squares. For future work based on this research, we suggest catalog the existing vegetation in the square, measure the contribution of vegetation to the attenuation of local thermal comfort.

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CIÊNCIA E SUSTENTABILIDADE
ISSN 2447-4606 v.5, n. 1, jan-jun, 2019