Health, Safety and Environment Management in Urban Parks

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Abstract

Because of the importance of health, safety and environment (HSE) issues in urban parks, this paper is organized in the form of integrated management of health, safety and environmental assessment in urban parks of 6th district of Tehran. Assessment of HSE in urban parks provide quality of their field and positive experiences to the next., Based on the results of the expectations of citizens and municipal services in planning of Quality Function Deployment (QFD) methodology and comparison with the results of analysis on existing parks models are developed to assess the status of HSE, especially in dealing with urban parks. Indicators for classification of citizens voice, output of the AHP methodology and indicators of classification concerns about the municipal parks and green spaces has been outputs of Delphi survey method.

The measurements from the questionnaire that obtain views of citizens about the status of HSE in the 6th district of Tehran parks have been statistically analyzed using software. The results indicate that the desirability of health measures in parks under study was 48.2 %, the safety indicators about 52/9%, and most of the environmental indicators of desirabilitywas 42/4%. The indicators of trash in the park, manuals and warning signs of surface water and sewage disposal in three sectors of health, safety and environment was, respectively, 32/8%, 36/2% and 26/7%, to have the lowest utility.

Introduction

In recent years, health, safety and environmental management systems are discussed as a management tool to control and improve matters in most environmental studies. This system will study simultaneously three factors of health, safety and environment.Thisattempts to create a healthy, pleasant and happy environment free of accident, damage or injury. This system is not limited to a certain horizon. Parks with various functions, operations and activities in urban areas are considered to be a kind of social work that a high population with different cultural, economic, social, health and traffic conditions will visit these places. Thus, there is possibility of spreading disease in these places.Therefore, it is important to consider safety issues and environmental pollution in the design, development and maintenance of urban parks. The purpose of this study is to provide a unique model for assessing the status of health, safety and environmental management in urban parks and principal components of health, safety and environmental issues in urban parks and the status of management in improving the situation.

Materials and methods

In this study, for as sampling of parks in the 6th district of Tehran, two parks of "Shafagh" and "Ghezel Ghale" in the scale of neighborhood parks, and two parks of "Saee" and "Laleh" in regional scale were selected. To access citizens' expectations and concerns related to the service in the parks and green spaces in District 6 of Tehran Municipality, the QFD method was used. Considering the diverse applications of this method, the QFD method was used in this study for municipal services for citizens in urban planning of urban parks. Thus, the citizens of this study are assumed to be identical. In this way, the desired characteristics of the citizens are asked to provide input for QFD matrix.The health, safety and environmental elements of the citizens in urban parks were to be collected. In the QFD method the priority categories of citizens in classification of surveys are

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performed. Citizens' voice for classification and considerations related to the service provider will be classified. Thereafter, the two units are connected and the QFD method is called in the HOQ. After that, a comparison indicator based on the nature of the extracted components of health, safety and environment was selected based on the fact that the nature of which indicators is closer to the priorities in the park. Matching criteria obtained with the situational analysis of the park offers the HSE assessment of the urban park. In this model, the implementation of existing standards was studied through some of the examples witnessed in the parks. Based on this model, a questionnaire was compiled. Surveys monitoring the quality of the park are in direct contact with the audience. The population was selected so that different age and gender groups of park users are included. The higher the level of credibility, the better the citizen voice classification indicators derived from the output of the AHP. In fact, the Delphi survey method was used among all of the parks in a group of volunteer parents.

The AHP survey method and classification indicators with the considerations related to the 6th district of Tehran Municipality's parks and green spaces were used to help get the output.

Results

The results of the health, safety and environmental assessment indicators based on specific models that measure the general state of health and safety of the parks showed that there were moderate and weak environmental indicators in the parks under study. The desirability of the health measure in the parks was 48.2% and less than the utility of the safety indicators with 52.9%, and most of the environmental indicators of desirability, with 42.4% (Figure 1, 2, 3). Other results indicate that the indicator of trash in parks, state manuals and warning signs, and the disposal of surface water and sewage, respectively, in three sectors of health, safety and environment were 32.8%, 36.2% and 26.7%, in case of having the lowest level of utility.
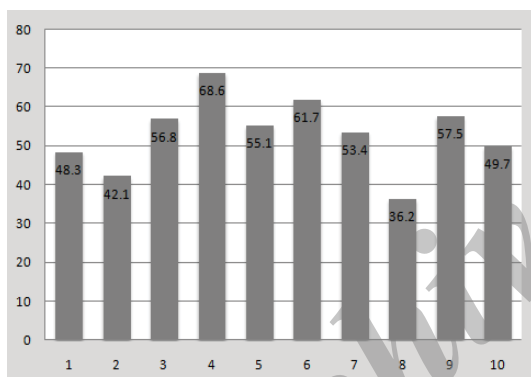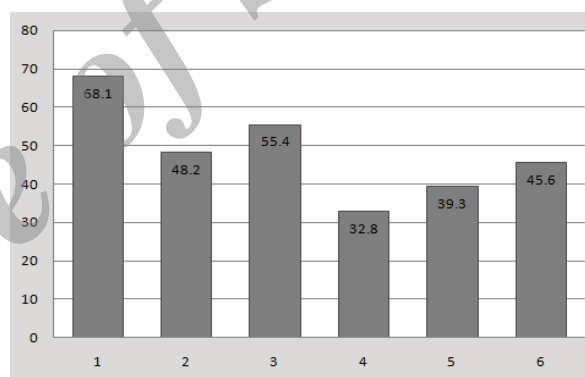

Figure 1. Mean of safety index in parks

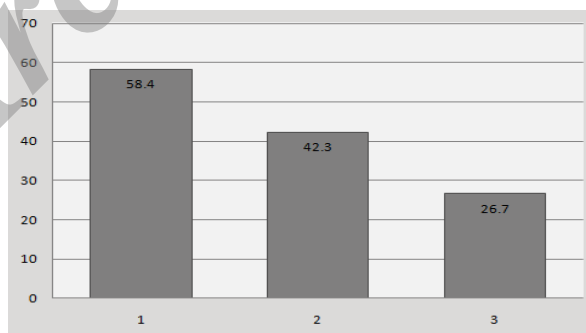Figure 2. Mean of health index in parks

Figure 3. Mean of environmental index in parks

Conclusion

Undoubtedly, health, safety and environmental arrangements for parks are among the important requirements of municipalities. Safety and health of the parks will not be practical unless the three factors mentioned above and the integrated management model for the implementation of HSE-MS can be considered in a successful strategy. It also seems that the results of HSE assessment of the specific model presented in this study, in one hand, and reasonable scientific framework for assessing the current state of urban parks on the other created in the health, safety and environment towards improving the quality of health, safety and environment of urban parks. It is evident in other public spaces of cities in Iran that the HSE assessment process may reveal hidden layers of content in public spaces, and provide looking towards the promotion of safety and health for urban life.

Keyword: HSE,QFD, urban environment, urban parks.