

Study of Users Preferences Based on Visual Quality Evaluation: The Case of Zahedan Mellat Urban Forest Park

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Peiman Golchin, Behrooz Naroei, Homa Irani Behbahani

Introduction: Due to increase of urbanization and population growth, which cause noticeable changes in the ecological structure of cities, creation of green spaces such as urban forest parks is essential as modulators of urban environment. Urban forest parks are natural or manmade parks that are located within or adjacent to cities and play an important role in ensuring stability of biodiversity. These parks can also provide environmental, conservational and educational functions as well as being used for leisure times. In the recent years, physical development of urban areas of Zahedan and the vital need of citizens for recreational spaces caused this forest park to be a popular and suitable place for leisure time. In this research, Zahedan Mellat forest park was selected to provide reasonable suggestions and strategies by using quality sort method and visual evaluation approach. This is to develop and extend visual qualities for the site and also identify landscapes with unique characters. Method Descriptive-analytical method and site survey was used for this study. First, the required information was collected through reviewing library resources, articles and internet and then to better understand the case study and make site zonation. The site survey was fulfilled by using maps and aerial photos. Parts with more similarity in usage, space and activities are considered in one zone. By this, the area is divided into 2 zones as recreational (zone 1) and auxiliary (zone 2). The quality sort method (Q-method) is used in this research. Q method is a way of extracting and describing subjective viewpoints. It assumes that subjectivity is structured and it combines qualitative and quantitative analyses to provide a systematic and rigorous means for objectively describing human subjectivity. This method allows respondents to model their viewpoints in response to a sample set of stimuli, which can be statements or images. The objective of Q method is to systematically describe and compare viewpoints among persons, not to determine the distribution of viewpoints within a population. Q-method has been applied in many disciplines such as political sciences, marketing, psychology, sociology, public policy, marketing, landscape and health care. The potential role of Q method in landscape research was recognized early, but has not received only much attention subsequently. Q method use photographs as a technique to assess scenic values. Subsequent studies have extended the investigation to assess users' perceptions and classifications of landscape character and also make cross cultural comparisons on the perceptions of scenic and heritage landscapes. Through this method, 75 photographs were taken in each of the defined zone. All photos were taken from the study site in May 2011 using a digital camera with 50mm wide angle lens. After omitting photos without preferable visual quality or similarity in ways, finally 16 images (8 photos of each zone) were selected for evaluation. Interviewing users were fulfilled on the busiest day of the week (Friday) between 4 until 8 pm. Photos were numbered from 1 to 16 and 100 users were asked to sort them into 5 separate groups labeled very beautiful, beautiful, normal, ugly and very ugly. Afterwards, the number of each photo was selected by different users and their opinions were written down. Selection of users was random.

Discussion and conclusion: After site survey and interviewing 100 users, collected data was analyzed. Among 100 users, 40 percents were male and 60 percents were female which 6% were less than 18 years old, 78% between 18 to 34, 14% between 34 to 59, and 2% were older than 59 years old. In total, 12 criteria (6 criteria expresses beauty while the other 6 reflects non-beauty) were driven from users opinions in order to determine the desirability of landscape with the greatest influence on visual quality evaluation. Results show that criteria such as presence of mountains and hills, vegetation density and open views to the surrounding landscape were considered as the top 3 most important criteria effective in landscape visual quality increase. While, criteria such as the presence of built human elements, visual disturbance in space and lack of diversity in plant species were extracted as the most effective criteria in landscape visual quality abatement. Also, photo number 4 taken in the first zone with the highest average point and criteria such as vegetation density was selected as the most beautiful photo while photo number 16 belonging to the second zone with the lowest average point and criteria such as vast

presence of human built elements was selected by the users as the least beautiful photo among other photos. The first zone in comparison with the second one earned the highest average point and is qualified as the best zone with the highest visual quality. Overall in this study, the visual quality sort method was used in order to evaluate the landscape characteristics of Mellat Forest Park. Having considered all the achieved data, these results were extracted:

1. Criteria such as the presence of natural elements like mountains and hills (30 %), dense vegetation and shading (21%) and open view to the surroundings (18%) are considered as the main factors enhancing the visual quality of Mellat Forest Park landscape and criteria such as the presence of man-made elements (27%), visual disturbance (20%), lack of diversity in plants species and lack of vegetation (19%) are the major factors in landscape visual quality abatement selected by users.

2. The results of this study indicate that recreational zone with total average score of 0.1212 is the finest zone and auxiliary zone with total average score of 0.0575 is rated as the other zone with the highest visual quality values.

3. In general, a desirable landscape from user's viewpoint is formed of dense vegetation, natural elements, bright, dark and shadowy spaces and appropriate color combinations, which can provide a good memory or a good sense of place. At the end, in order to promote and improve the research, these further researches are suggested:

1. Necessity of providing a comprehensive plan for Zahedan City and considering its impact on Park's development prospects
2. Study and research to assign the appropriate use to the natural - cultural fields of this Park
3. Quality promotion and improvement based on users needs, environmental standards and aesthetic factors.
4. Considering planting design principals and selection of suitable vegetation compatible to the regions climate.

landscape aesthetic, urban forest park, users preferences, visual evaluation