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# Green Bases in Osaka as Sequential Landscape

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Cities have been recently greened with various places and greening techniques. For example, there are green buildings as green roofs and walls in a private land as well as green creations in public facilities in urban parks and streets. On the other hand, people are devoting their energies to conserve and preserve forests, groves of village shrines, old trees and time-honored trees. The age of abundant green is the present in the metropolitan area. Consideration to the landscape is one of the important subjects for urban design these days. Above all, it is essential to improve the green environment. Especially, it is important to conserve and use the existing green environment as well as simply increasing the green in the metropolitan area, where it is hard to have the wide green space.

Under the above-mentioned circumstance, the authors are trying to analyze a view of the green environment as the element of urban landscape in this study. The view of the green environment is analyzed as a sequential landscape, because people are viewing the green which movements in urban space. Osaka, prefecture, which is the case study area in this study, has mountains surrounding the Osaka Plain. Therefore, the urban area is spreading in the plain, and there are very few natural green there. The authors perceive a lot of green in Osaka because of such features. So, we can watch many types of planted green.

In the analysis over a wide area, the green covered space was extracted with NDVI by using the remote sensing data. The present condition of green and variety were understood using the existing green covered space and the selection of 100 greens in Osaka. Then, the authors analyzed the green in relation to the green covered space, the green planning and the land use data in the city of Osaka, where we have the most familiar green.

In the analysis over a small area, the large-scale park is selected as a case study because of important for maintaining the green. A digital surface model was built with digital map data and LIDAR data, and then the greens in the park were tested by the visibility analysis from the streets. As a result, of this analysis, the green of the park can be seen on many streets around there. The greens in the park cannot be seen on the streets, actually because of viaducts, pedestrian bridges and street plantings on the streets.

The routes in the park, which are used by people, were selected from various networks. The greens in the park were understood by the visibility analysis. They also analyzed in detail from where and how people view the greens in the park by using images on the photo-sharing website. As the results of this study, it is understood that people come to the park to see the green like cherry blossoms, indicating the four seasons, and prefer the scene including the structure like the Osaka Castle with the attached green. The authors are going to propose the methods of green maintenance and application.

Keywords: green environment, green base, sequential landscape, geo-information technology