On the Buffer Zone around the Conservation Area

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To conserve heritages, a buffer zone has an important role. The buffer zone of the World Heritage is mentioned in the guidance of the world heritage treaty. In the description of the buffer zone, it has been transcribed several times, ‘a buffer zone is an area surrounding the nominated property which has complementary legal and/or customary restrictions placed on its use and development to give an added layer of protection to the property’.
However, we perceive various scenery, such as small space or large space. The buffer zone for the variety shaped heritage cannot necessarily set appropriately. It may be an example showing the problem of the buffer zone plainly. Off course we do not deny the present technique performed by these empirical technique, but if there are grounds for buffer zone setting more, we think that we have big influence for a future plan.
The purpose of this study is to construct the analyzing system to set appropriate buffer zone, particularly for the mountains where a buffer zone is set uniformly.
Specifically, we measure physical quantity based on not only the topography but also the vegetation. We carry out the laser survey and compare its result with the model analysis.
There are the studies that captured value of the forest for conservation from a macro viewpoint. In this study, we arrest the forest from the micro viewpoint. In particular, we analyze a close view capturing the state of the tree. We finally analyze the result in conjunction with a distant view. Based on a method to quantify value of the forest that we arrived as a conclusion, we will be able to suggest a method to set a new buffer zone.
In our previous studies, we modeled the vegetation that was distributed a lot over the conservation area, to quantify the view from the route, as a transmissible distance of gaze from the viewpoint, the “Transparency”. We performed the image analysis, and analyze the relations of both. In image analysis by the photographs, the ratio of the sky area in the photos was calculated. The direction photographing a camera is a horizontal direction for a prayer way. The eyes incidence angle set it in zero degree. The forty samples were analyzed. As a result, the adequate correlation is not appeared.
We carried out laser surveying in five places in the case study area. They were investigated at a place of the topography unlike different vegetation. The angle measurement is 6 second horizontally, 6 second vertically. The resolution (density of scan) is, as a spot size, 6 millimeters or less (1-40m), about 16mm (100m), and 1mm (the smallest point, distance: 20m). We analyzed of the largest visitation area, the ‘plantations of Japanese cedar and hinoki’.
As a result, we were able to get the useful knowledge on the occasion of the setting of the buffer zone. In this investigation, we conduct a similar investigation into much other vegetation. In addition, we have extracted the data of the illumination and the noise in case study area. We are going to obtain data of the setting the buffer zone, in reference to hearing and olfactory analysis. JSPS KAKENHI Grant Number 24603030 supported this work.

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