

## Landscape Perception of Takao Quasi-National Park Using by Visitor-Employed Photography and Spatial Information Technologies

\*Yusuke Mizuuchi<sup>1</sup>, Katsunori Furuya<sup>1</sup>

1. Graduate School of Horticulture, Chiba University

### 1. Introduction

Mt. Takao is, a famous natural tourist site, designated as Quasi-National Park. For landscape planning such as natural parks, it is important to understand how users percept and evaluate landscapes. The relationship between viewpoints and a viewing object has been regarded important in the landscape perception model which has been studied in landscape architecture, Geography and some sciences. One of the study methods to understand such landscape perception uses a camera called "Visitor-Employed Photography (VEP)", and this method is considered effective in extracting visual images of a space. However, while existing VEP is effective in understanding viewing objects, it still has shortcomings. It requires interviews and descriptions separately in order to extract viewpoints. Certainly, using a Global Positioning System helps effectively pinpoint photographed locations. Providing GPS logger (hereafter GPS) to visitors and gathering geospatial information offers the possibility of thoroughly understanding each photo's location. Additionally, GIS analysis enables to give the spatial distribution, other characteristics of the photos locations. This study conducted a survey combining VEP and GPS in order to understand landscape perception in Takao Quasi-National Park, in Hachioji, Japan.

### 2. Method

A survey was conducted with 30 respondents, and the Inariyama trail of Takao QNP in the suburbs of Tokyo, was selected as a site. The respondents were instructed to use their own cellphones or digital-camera and take over 15 photos of landscapes which respondents prefer. They were also instructed that carrying GPS. Following this activity, respondents selected 15 photos, and noted down 15 photos profile (contents of photos). Each 15 photos were evaluated four item 1) aesthetic, 2) naturalness, 3) rareness, 4) atmosphere by five scale. From the collected photos and geospatial information, we analyzed the places which visitors prefer and its landscape types in Takao Quasi-National Park by using GIS. To identify the place that were particularly popular area called hot spots, whole of trail was divided 5m lines. Then, the number of viewpoints (location where photos were taken) within each line was calculated. After this, Getis-Ord  $G_i^*$  statistic was used (chosen for its superior ability to extract locations with distance damping), so as to identify statistically significant hot spots.

### 3. Results

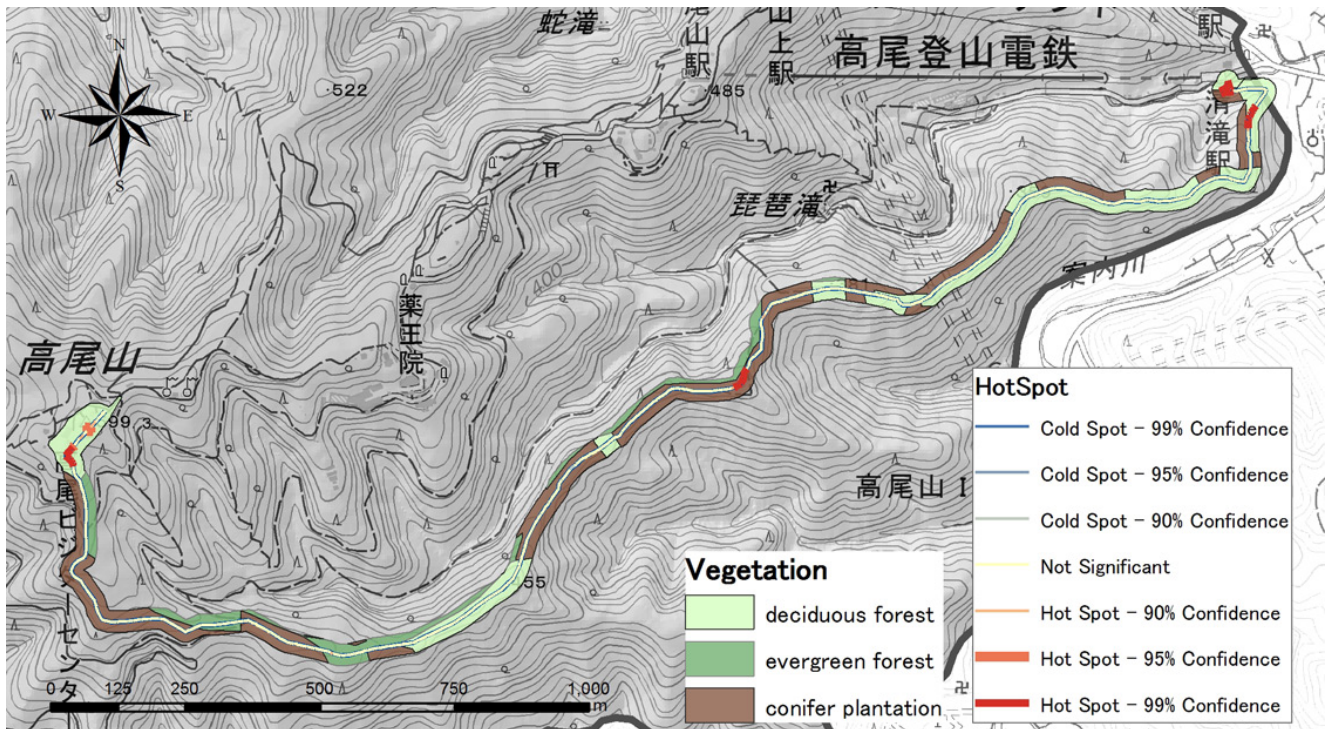
450 photos were collected from 30 respondents. These photos were categorized based on the viewing objects and viewing way. As a result, based on the trail as a viewpoint, "surroundings" (the photos of sceneries within the woods) counted most with 117 photos. "Panoramic views" (82 photos) were also common. We analyzed the collected geographic information with the Getis-Ord  $G_i^*$  statistic and identified the viewpoints of visitors' preference (Fig. 1). The results showed that three highly preferred locations called hot spot were extracted ( $p < .001$ ). This result was combined with the categorized viewing subjects for further analysis, and it was found that photo shooting density tends to be high at the following locations: 1) panoramic view at the top of the mountain, 2) panoramic view at the perspective field on the way, 3) locations with a shrine, and 4) around entrance of the trail.

### 4. Conclusion

In this research, we clarified the places which visitors prefer and its landscape types in Takao

Quasi-National Park by the survey combining VEP and GPS. By extracting the places and its landscape types which visitors prefer, the spatial condition which visitors prefer can be found by using GIS in future study. Lastly, the necessity of an on-site survey, including spatial analysis, was discussed in order to analyze landscape experience at natural landscape area.

Keywords: Landscape, GIS, GPS



## Winter landscape imageries of the city in Sapporo and Rovaniemi

\*Hirofumi Ueda<sup>1</sup>

### 1.Sapporo City University

Focusing on the snow culture and customs as new tourist resources, culturally different meanings of snow and winter landscape need to be understood. In this study, Ways of seeing the winter landscape in Sapporo and Rovaniemi was represented by using Landscape Image Sketching Technique. Students of the Lapland University, Department of Art and Design (n=93) and of Sapporo City University, School of Design (n=116) were asked to make a landscape imete sketch of an imagery of their favorite winter scenery in Rovaniemi or in Sapporo and to include keywords and text.

As a result, landscape image sketches revealed differences in characteristics between respondents in Finland and Japan. The typical landscape images of winter scenery were represented as natural landscapes from a long distance in Rovaniemi and as urban landscapes from a medium distance in Sapporo. The result suggested their different whole concepts of 'winter city' as well as their leisure activities in winter season.

Keywords: Landscape Image Sketching Technique, Winter scenery, Northern regions, Finland

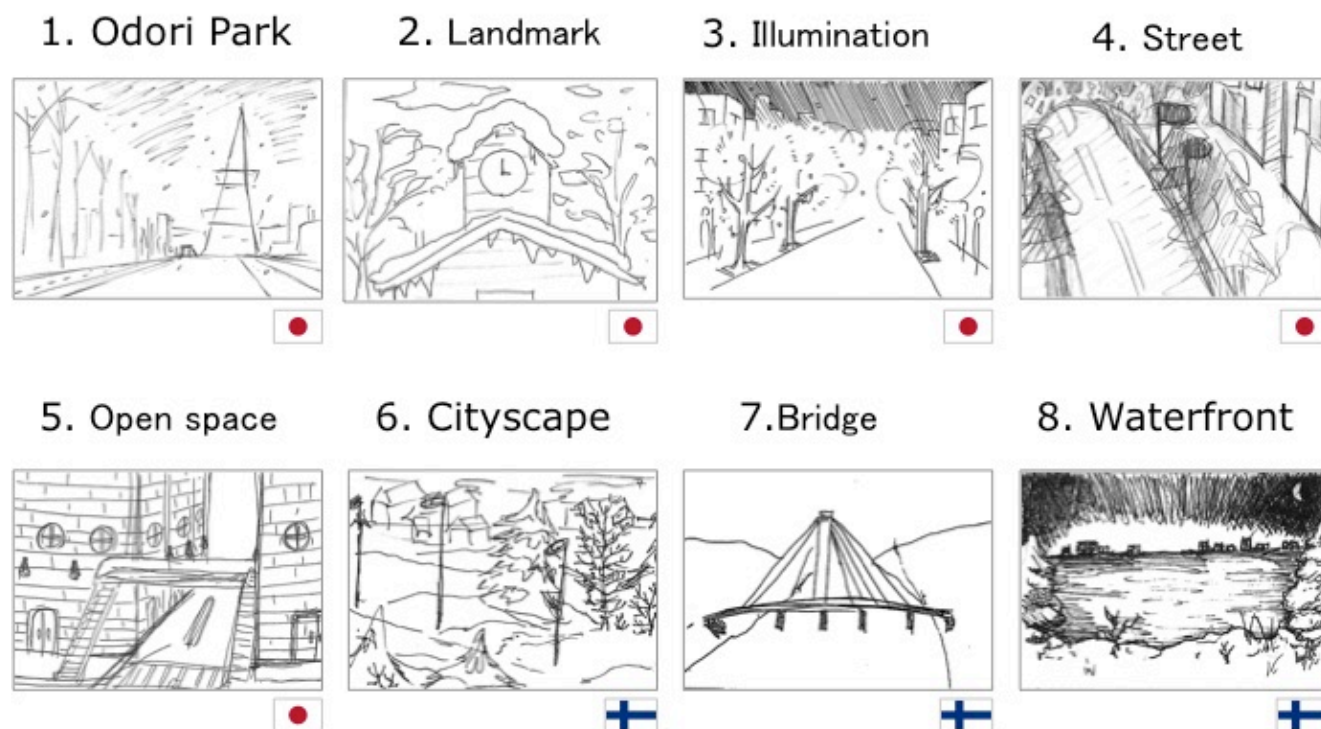


Fig1. Examples of winter landscape imageries categorized in 'City'

## Tourists' Attitude toward Nature Preservation Activities at Hulun Lake Nature Reserve in Inner Mongolia

\*Guorong Han<sup>1</sup>, Katsunori FURUYA<sup>1</sup>

1. Graduate School of Horticulture, Chiba University

### Introduction

Nature reserve system is employed in China as effective measures to protect an ecosystem, diversity of natural creatures, natural resources, and sceneries. China's Western Development Program, which started in 2000, implemented tourism development in the nature reserve in Inner Mongolia, and its economic effect has been recognized. However, one of the efforts expected in regard to tourism management within the nature reserve is to induce tourists' understanding of ecosystem and to promote nature preservation activities by converting tourism usage to eco-tourism. It is also required to understand tourists' attitudes in order to promote their nature preservation activities. Hulun Lake Nature Reserve is a national nature reserve located in Hulun Buir City in Inner Mongolia. In this study, the purpose thus has been set to understand tourists' attitude toward nature preservation activities at Hulun Lake Nature Reserve, and to identify key factors for them to participate in such activities.

### Study Methods

An attitude research was conducted from the end of August to the middle of November in 2015, with the tourists who visited Hulun Lake Nature Reserve as a study subject. The research was administered with a questionnaire survey, which obtained 1,536 effective responses. The questionnaire included questions to ask respondents' demographics and attitude toward nature preservation activities with four-scale answers ("strongly agree", "agree", "do not agree", and "do not agree at all").

### Results

The respondents' demographics were 749 male and 787 female, and 72% of the respondents had educational qualification of high school and above. The largest number of respondents was from 30's and 40's, which counted 45% of the total respondents. Regarding the occupations, office workers, such as public servants, counted 43%, which was the largest group, followed by students 29%, and unemployed and agro-pastoralists together 38%. As for the races, 69% of the respondents were Han, 24% Mongolians, and others including the Russians and the Evenks 7%. Fifty-five percent of the respondents were domestic tourists from outside Inner Mongolia.

With the result of the top two boxes ("strongly agree" and "agree"), "1. Importance of nature and open green space can be communicated to other citizens through the activities" scored highest (98%), followed by "5. It is refreshing with soothing effects by animals and vegetation" (81%), "2. My hobby, such as observation of animals and vegetation can be satisfied" (81%), "6. Quality green space can be preserved for scenery or play grounds" (80%), and "3. Local economy will be stimulated with increased employment in the area" (78%). The total score of "do not agree" and "do not agree at all" among tourists was the highest with "4. Knowledge about and technology for nature and green space conservation will be enhanced" (34.6%)

In this research, tourists' attitude towards nature preservation activities at Hulun Lake Nature Reserve in Inner Mongolia has been clarified.

Keywords: Nature Reserve, Nature Preservation Activities , Tourists, Attitude

## Motives for climbing Mount Fuji: A Comparative Study of Domestic and International Climbers

\*THOMAS JONES<sup>1</sup>

1. Graduate School of Governance Studies, Meiji University

The increasing number of international climbers at mountainous destinations necessitates monitoring of the demographic profile and motivation of existing and emerging visitor segments. This paper compares domestic and international climbers descending from Mount Fuji in the summer 2015 season. An intercept survey was conducted over five days near the 5<sup>th</sup> station trailhead on Yoshida, which has the highest footfall of Fuji's four trails. In total, 989 questionnaires were collected from domestic (n=408) and international (n=581) climbers. Findings revealed international climbers to be younger, with lower annual income. Most international climbers were tackling Fuji for the first time (95%), whereas 42% of Japanese had climbed before. The two segments showed common and unique motives. Amongst commonalities, the challenge of reaching the highest peak in Japan dominated both segments, but Japanese were less likely to seek solitude or meeting new people. This research identified variance in climbing motivations. These findings have applications for segment-based monitoring research, and implications for targeted management strategies.

Keywords: mountain climber segments, comparative study, motivation, Mount Fuji

## A Study on Landscape Assessment with Photo Classification Method: Focusing on Bukhansan National Park

\*Younsun Jang<sup>1</sup>, Kyuchul Lee<sup>1</sup>, Yonghoon SON<sup>1</sup>

1.Seoul National University

'Subjectivity' is one of the important factors of assessing the landscape cognition. However, the earlier studies were focused on finding out the objective and unified values rather than the subjective viewpoints from respondents. The purpose of the study is to find out the ways of appreciation of the landscape by analyzing and classifying subjective values and cognition of natural landscape using Q-method with the photographic medium to complement the problems of the earlier studies. The research focuses on Bukhansan National Park in Korea, collects the 1,738 pictures from hikers and extracts 25 representative landscape pictures of the whole. Second, The research classifies of 25 photographs by using Q-method with 5 factors which are naturalness, diversity, coherence, exotic feelings and preference. Lastly, the study analyzes the detailed reasons of evaluation by interview to participants.

In conclusion, green landscape with various vegetation is highly rated for naturalness. The landscape with various natural factors and seasonal change got high points on diversity. There are narrow variations of interpreting naturalness, but there are wide variations of interpreting diversity. The landscape which is stable and harmonious rated highly on consistency, and the unusual landscape with huge scale got a high points on exotic feelings. As a result of correlation between preference and assessment factors, the landscape which has a strong naturalness is highly preferred. The study indicates that people preferred the landscape with natural factors rather than man-made facilities on the landscape of Bukhansan National park. We may conclude that this study would be used as basic data to compare the ways of appreciation of the landscape between countries.

Keywords: cognition of landscape, Q-method, classification of photos, naturalness, preference

## Analysing visual landscape preferences of trails in Bukhansan National Park

\*Kyuchul Lee<sup>1</sup>, Yonghoon SON<sup>2</sup>

1. Interdisciplinary program in Landscape Architect, Seoul National University, 2. Graduate school of environment studies, Seoul National University

Bukhansan National Park is one of the national parks where the most people visit per year. Bukhansan National Park's 'Dulle-gil' is a trail that is constructed along with the boarder of the national park. The role of the trail is to conserve the national park ecosystem absorbing the demand for visiting the other trail that is made to the top of the mountain, and to provide new experiences for visitors. Following the results of the visitor satisfaction investigation, the effects on Dulle-gil have been insignificant yet.

The study purpose is the comparison analysis of visual landscape characters between a typical trail and Dulle-gil. Visitor-employed photography (VEP) has been used to select the most preferred landscape photos in two national park's trails. Visual concepts which is naturalness-man made, coherence-diversity, visual scale, imageability are used to describe different characteristics of visual landscapes in the trails.

The results is that naturalness is related to visitor's preference in the typical trail, while the character does not have the relationship with the preference in the Dulle-gil. The new trail has been experienced of what is more various types of visual landscape than the other one. It could be possible to get to the trail easily and to provide rich experience of visual landscape for visitors.

Keywords: Visual landscape assesement, Visitor-employed photography, Visual Charactors, National parks

## A Study on Urban Image of Ulsan and Ulsan Grand Park

\*minseo kim<sup>1</sup>, Katsunori Furuya<sup>1</sup>, Yonghoon Son<sup>2</sup>

1.Chiba University Graduate School of Horticulture , 2.Graduate School of Environmental Studies  
Seoul National University

### 1. Introduction

Ulsan, South Korea, is designated a special industrial district. It has developed rapidly and become a pillar of the national economy. However, negative images such as "Polluted Factories" have insidiously arisen and become representative of the word "urban".

Thus, Ulsan has tried various projects, such as establishing parks, to minimize an anti-sentimental image of the urban area. Subsequently, the city has formed Ulsan Grand Park, which is an urban park of the highest scale, throughout the country. This effort is only one part of this project.

### 2. Method

In order to obtain information about Ulsan, this study utilized numerous newspaper articles for two reasons:

The articles are a good way to preserve information from the past and transfer it to the present. They make it easy for the public to reference date.

The period of referenced information is 1962 to 2013. The articles have been gathered by including the word "Ulsan" in the title. The collected materials describe the frequency of the contents in order. Then after deriving observations about how the image of the city has changed, I conducted a survey of the inhabitants.

### 3. Result and considerations

The main results and conclusions of this essay are as follows:

First, the urban image of Ulsan, which was analyzed in newspapers, has changed from an anti-sentimental image into a sentimental image. In addition, 85.6% of respondents say that Ulsan has changed over time.

Second, the most drastic change in people's image of Ulsan is that it is green, which proves the significance of Ulsan Grand Park's influence. Additionally, there are now seven major parks in Ulsan.

Third, the cultural thirst of Ulsan inhabitants is satisfied by the huge festival in the main field of Ulsan Grand Park.

Fourth, the evaluations of Ulsan inhabitants about Ulsan Grand Park have exceeded the normal viewpoint about neighborhood parks. Accordingly, their psychological viewpoint about Ulsan has improved.

### 4. Conclusion

In modern times, local governments want to enhance their urban image by establishing public spaces such as parks. Unfortunately, many established urban areas do not receive support from their inhabitants, which results in a difficult problem.

Therefore, when establishing urban parks, they need to be researched in conjunction with urban development procedures, according to urban inhabitants' viewpoints. Instead of simply making functionally oriented plans for urban infrastructures, they need to review what the potential requirements of urban inhabitants are, as well as how interactive the relationships with urban development procedures are.

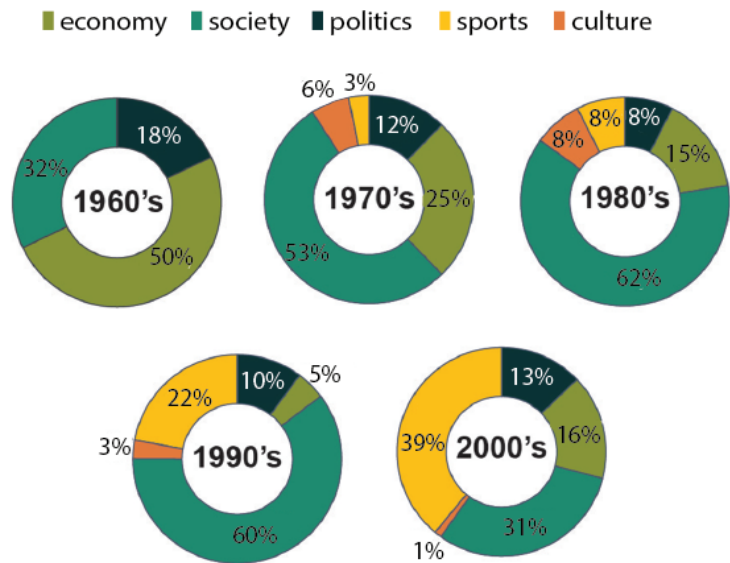
Keywords: Urban Image, Ulsan, Ulsan Grand Park



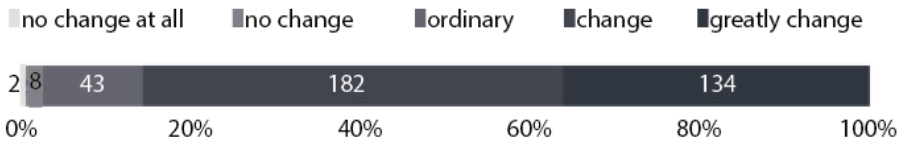
● Site location



● Chronological distribution of articles

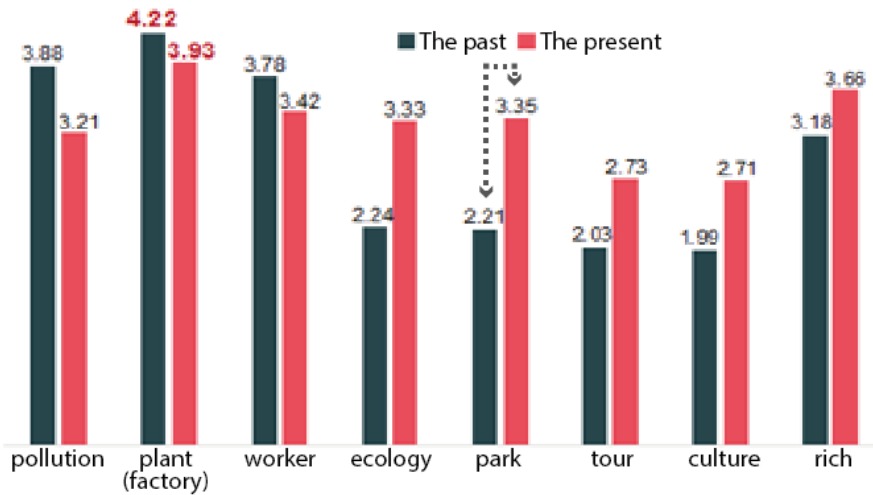


Q) Do you think Ulsan's image has been changed from the past?



Urban Image of Ulsan **has changed** compare to the past **85.63%**(316people)

Q) What do you think about Ulsan image of the past and the present?



comparison of two independent samples (changing image from the past and the present) about **'park'** is the best

## Comparing the visual perception and aesthetic evaluation of natural landscapes in Russia and Japan

\*ELENA PETROVA<sup>1</sup>, Yury MIRONOV<sup>2</sup>, Yoji Aoki<sup>8</sup>, Hajime Matsushima<sup>3</sup>, Satoshi EBINE<sup>3</sup>, Katsunori Furuya<sup>4</sup>, Anastasia Petrova<sup>5</sup>, Norimasa TAKAYAMA<sup>6</sup>, Hirofumi UEDA<sup>7</sup>

1.Lomonosov Moscow State University, Faculty of Geography, 2.Vernadsky State Geological Museum of the Russian Academy of Sciences, 3.Research Faculty of Agriculture, Hokkaido University, 4.Graduate School of Horticulture, Chiba University, 5.Institute for Oriental Studies of the Russian Academy of Sciences, 6.Forestry and Forest Products Research Institute in Japan, 7.School of Design, Sapporo City University, 8.The open University of Japan

Japan and Russia have deeply rooted cultural traditions regarding natural landscape appreciation, share a common border, and have areas with similar natural environments. They differ, however, in cultural, historical, and economic aspects. The purpose of this study was to reveal the similarities and differences between Russian and Japanese respondents regarding the visual and emotional evaluation of landscapes based on ethno-cultural and regional differences. We asked respondents at universities in Russia (Moscow, Irkutsk, and Kamchatka) and Japan (Hokkaido, Chiba, and Miyazaki) to group and rate 70 color landscape images. Unlike theoretical concepts that explain landscape preferences within an evolutionary framework or according to individual and cultural differences, we found that these factors interact in more complicated ways. Cultural traditions and features of the natural environment that were familiar to respondents influenced their visual perception and aesthetic evaluation of landscape. Russian respondents seemed more emotional while Japanese respondents tended to be more restrained in their assessments. However, there was a rather strong correlation between their estimates of landscape attractiveness, which might confirm the existence of universal human concepts of landscape aesthetics. The most attractive for both Russian and Japanese respondents were waterfalls, mountains, and lakes; but the least attractive were waterless plains. At the same time, we found cross-cultural and regional differences in assessing seacoasts, rivers, forests, and swampy plains. There was practically no correlation between Russian and Japanese respondents in their appreciation of exotic/familiar landscapes. For the Russian respondents, the most exotic landscapes were also the most attractive, although we did not observe such a tendency for the Japanese respondents. All the Russian and Japanese respondents appreciated certain familiar landscapes that were symbols of native nature as very attractive. Unlike "geoscientific" landscape classifications, in the visual and emotional grouping of landscapes by respondents the most important feature appeared to be the presence/absence of water and the type of water basin (river, lake, and sea); for Russian respondents (especially for Moscow respondents), topography was also important, while the Japanese respondents mostly used visual and seasonal characteristics in their classifications. All Japanese respondents assessed the attractiveness and exoticism of landscapes almost identically, while there were some differences among Russian respondents from different regions.

Keywords: visual landscape classification, aesthetic evaluation, attractive landscape, exotic landscape, traditional landscape appreciation, influence of natural environment

## A study on students' recognition of words that represent alun-alun, Indonesia's traditional open spaces

\*Takako Kohori<sup>1</sup>, Katsunori Furuya<sup>1</sup>

1. Graduate school of Horticulture, Chiba University

### 1. Introduction

To increase the value of an open space, it is important to clarify the current situation, especially what kind of images people have. This study focuses on alun-alun, which are traditional open spaces in Java, Indonesia. Alun-alun have spread all over Java. Generally, one alun-alun has been set in each city. It's usually located in the city center, and it serves as a precious open space.

It has been said that alun-alun have a strong relationship with Java's history. One could also say that alun-alun have a high historical and cultural value. The most famous alun-alun is located in Yogyakarta. This alun-alun has a strong relationship with the palace.

The objective of this study is to clarify the current situation of alun-alun through the key words that youth consider. The purpose of revealing the current situation is connected to understanding the kind of planning and designing that are needed.

### 2. Study Methods

In this study, the subjects are students of Universitas Gadjah Mada, located in Yogyakarta. The research method involved questionnaires. These questionnaires asked key words that the students associated with alun-alun. They were asked to write down keywords—a minimum of one and a maximum of six. The survey was conducted in September 2015. Regarding respondents' attributes, the number of valid responses was 202, with 105 males (52.0%) and 84 females (41.6%).

### 3. Results

Respondents were spread across all of Java. 12 people came from the province of Banten, 7 came from the province of West Java, 63 came from the province of Central Java, 54 came from the Special Capital Region of Yogyakarta, and 15 came from province of East Java. 1,242 keywords were collected from 202 respondents.

Key words were divided into four groups: emotion, utilization, existence, and space configuration. The emotion group had words that represented people's feelings about alun-alun (429 key words or 34.5%). The utilization group had words that represented people's activity in alun-alun (290 key words or 23.3%). The existence group had words that represented alun-alun's status from past to present (145 key words or 11.7%). The space configuration group had words that represented what constituted alun-alun (349 key words or 28.1%). In the emotion group, there were some words that involved bad emotions like "dirty" and "crime." But most of them were words that express good emotions like "cozy," "clean," and "relax." In the utilization group, the most common activities were playing sports, gathering people, and buying something; there were also more unusual activities like tourism, courtship, and festivals.

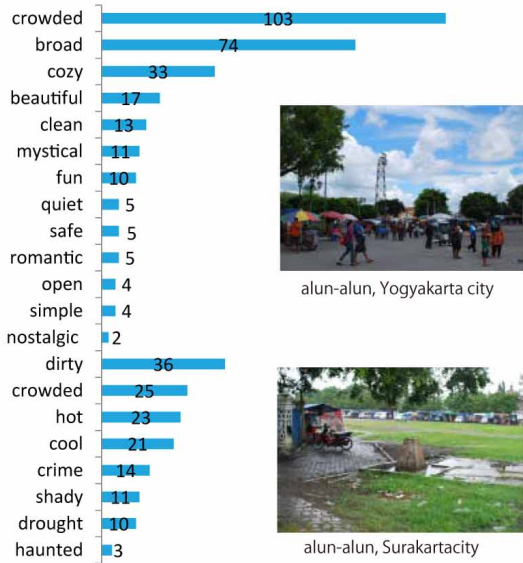
One could say alun-alun have two types of activities: daily use and extraordinary use. In the existence group, there were some words about the past, such as "culture," "history," "palace," and "king"; there were also some words from the present, such as "fields" and "park." Alun-alun have some historical aspects, but they're also used as open spaces in the present. The space configuration group revealed that ficus benjamina (a special kind of tree), other trees, and grass are thought of as components for alun-alun, and the land mass is huge. Most people think of alun-alun as mainly consisting of trees and grass, but there are other components, such as lights, flagpoles, and benches.

4. Conclusion

From this research, one could say that alun-alun are historical and cultural places that are used for extraordinary events. However, for some people who answered these questions, alun-alun are places where people spend their daily time for gathering, eating, and playing sports. Therefore, this study reveals that alun-alun are open spaces for urban people.

Keywords: Indonesia, Java, open space, alun-alun, questionnaire

<The emotion group>



<The existence group>



<The utilization group>



<The space configuration group>



## The Chinese Poetry of Soseki Natsume: An Analysis of Nouns and Adjectives Related to the Features of Scenery

\*Qianling Zhu<sup>1</sup>, Katsunori Furuya<sup>1</sup>

1. Graduate School of Horticulture, Chiba University

### 1. Introduction

Soseki Natsume is a famous literary scholar well known in East Asia such as in China, Taiwan Area, and Korea. Soseki's excellent writing was deeply influenced by Chinese literature. Chinese poetry accounted for a large proportion of Soseki's work, even larger than Haiku. In this study, the objective is to examine the features of scenery depicted in his Chinese poetry by analyzing the relevant nouns and adjectives.

### 2. Study Methods

Soseki Natsume wrote a total of 208 Chinese poems. The poems that were selected for analysis featured in Soseki Shichu (Poetry Note) by Kojiro Yoshikawa in 1967. Nouns and adjectives related to scenery were the primary focus. In my other research, mainly nouns were analyzed. But in this research, adjectives related to scenery in the following categories were included:

Positive adjectives, such as "high," "full," and "bright"

Negative adjectives, such as "alone," "desolate," and "empty"

Neutral adjectives, such as "green," "distant," and "red"

Only those adjectives that appeared twice or more were counted. The percentages mentioned in the article indicate the frequency of appearance of the adjectives in the 208 poems. A cluster analysis (Ward's Method) was performed for the further analysis of nouns, and JMP software was applied for statistical analysis.

### 3. Results

#### 3.1 The frequency of the appearance of adjectives related to scenery

Within the 208 poems, the following adjectives related to scenery were used, in order of frequency of appearance: green (27%), distant (13%), alone (12%), desolate (11%), empty (10%), red (9%), old (9%), high (9%), idle (9%), cold (9%). The sum total of adjectives related to scenery was 541. Positive adjectives resulted in the following percentages: high (9%), full (8%), bright (7%), vast (6%), huge (6%). The total number of positive adjectives was 159, and they constituted 29% of all the scenery-related adjectives. As for negative adjectives, the total number was 236 (44%), with the following breakdown: alone (12%), desolate (11%), empty (10%), old (9%), idle (9%), cold (9%), silent (8%), and secluded (8%). The neutral adjectives totaled 146 (27%): green (27%), distant (13%), red (9%), yellow (5%), natural (5%). Lastly, 122 adjectives were related to color (23%), and 27 were related to sound (5%).

#### 3.2 A cluster analysis of the combination of nouns related to scenery

As a result of a cluster analysis of the combination of nouns related to scenery, we divided 208 Chinese poems into 13 groups. Group 1 included 17 poems, 94% of which had content about water, clouds, and mountains. All 15 of the poems in Group 2 had content about mountains (100%). 60% of them included water, and 40% of them included wind. In Group 3, the percentage of poems (15) that included content about the moon was 100%, and 67% of the poems included content about water. As for other groups, please see the chart at the end of this paper.

### 4. Considerations

The nouns and adjectives that were related to scenery in Chinese poems written by Soseki Natsume were analyzed. Negative adjectives accounted for a large proportion (44%) of his Chinese poems. We can therefore draw the conclusion that Soseki Natsume preferred scenery with negative elements,

such as desolate places, empty houses, and secluded gardens. Positive adjectives also appeared in his Chinese poems to some degree (29%). He depicted beautiful things, such as bright moons, new grass, and splendid flowers. Soseki was good at using adjectives related to color and sound. According to the result of the cluster analysis, the particular scenery that can most frequently be imagined is a vast view of water in the foreground with steep mountains in the distance and clouds floating above them. A bird flying in the vast sky among several leisurely clouds can also be imagined.

Keywords: Chinese poetry, Scenery, Soseki Natsume, Adjective

Group	1	2	3	4	5	6	7	8	9	10	11	12	13
poem number	17	15	15	6	12	18	13	12	15	8	16	13	12
2water	94%	60%	67%	0%	25%	33%	54%	0%	13%	0%	0%	0%	100%
3cloud	94%	13%	7%	83%	100%	100%	23%	0%	0%	0%	19%	0%	25%
4mount.	94%	100%	27%	17%	0%	17%	31%	0%	0%	0%	25%	0%	0%
5flower	6%	0%	27%	50%	75%	0%	23%	25%	7%	0%	0%	100%	75%
6rain	53%	0%	13%	33%	25%	0%	0%	8%	7%	0%	100%	8%	50%
7moon	47%	0%	100%	17%	50%	6%	15%	25%	0%	0%	13%	8%	8%
8autumn	18%	7%	20%	17%	25%	0%	100%	25%	20%	25%	19%	0%	8%
9willow	12%	13%	27%	0%	8%	6%	15%	33%	0%	13%	0%	38%	50%
10bird	0%	7%	13%	100%	8%	11%	23%	0%	0%	0%	13%	54%	33%
11sky	41%	0%	13%	100%	0%	6%	46%	17%	0%	0%	0%	15%	8%
12spring	24%	20%	13%	0%	0%	0%	8%	8%	20%	13%	0%	46%	25%
13bamboo	0%	7%	13%	17%	0%	17%	0%	0%	0%	100%	19%	15%	17%
14sunset	24%	13%	13%	0%	8%	17%	8%	0%	27%	0%	0%	15%	25%

Study on the reduction of environmental disputes risk on the scene of wind farm.

\*Hajime Matsushima<sup>1</sup>, Tomoya Hazama<sup>2</sup>

1.Research Faculty of Agriculture, Hokkaido University, 2.Graduate School of Agriculture, Hokkaido University

In recent years, conversion of renewable energy from fossil fuels is tackled to worldwide, particularly wind power generation has been introduced on a large scale. On the other hand, since the environmental dispute that causes the negative impacts such as noise, degradation of scenic value, bird strike, etc., also been reported, it has become a major burden for both businesses and residents. In particular, although the degradation of the scenic value by the wind turbine has been pointed out in a number of countries, it is not sufficient in the Japanese guidelines corresponding to the scenic value. In this study, to clarify the factors that affect the preference of the landscape with a windmill, aimed to reduce the environmental dispute risk on the scene of wind farm.

We selected five survey sites for questionnaire survey from coastal area in Hokkaido prefecture, which were with the highest potential for the construction of wind farms, depend on their relationships with wind farms, i.e. with or without wind farm, operation type, experience of environment dispute, etc.

The results showed that the key factors that affect the preference of the landscape with a windmill were the knowledge of wind power generation, operation types of wind farm and the history of environment dispute. To reduce the environmental disputes risk on the scene of wind farm, the appropriate information provision and consensus building that can dispel the fears and doubts of the residents is important in the site selection stage. And the introduction of the system, such as reducing the benefit to the public is required in construction and management stage.

Keywords: wind power generation, scenic evaluation, information provision, coastal landscape

## Appreciating the non-human landscape? Urban residents' willingness to coexist with animals and plants in Australia and Japan

\*Christoph Rupprecht<sup>1</sup>

1.Environmental Futures Research Institute, Griffith University

When we think about the urban landscape, we often think of buildings and streets, or natural elements such as mountains, rivers or the sea. But we also share cities with animals and plants, co-inhabiting urban space and interacting on a daily basis. These interactions can lead to wildlife conflicts (e.g., crows looking for food in trash, weeds growing on the sidewalk), because animals and plants are independent actors we cannot control.

In the context of rapid urbanisation, geographers are calling for embracing non-humans as urban co-inhabitants. To find paths towards more-than-human cities and reduce wildlife conflicts, we need to better understand residents' willingness to coexist with plants and animals. This study used a mail-back survey and quantitatively compared residents' preferences toward sharing their neighbourhood and perceptions of belonging across urban green space in two geographically and culturally distinct cities: Brisbane, Australia and Sapporo, Japan.

Results suggest factors influencing respondents' willingness to coexist were geographical and cultural context alongside educational attainment and age, but not sex and income. Mapping respondents' preferences for animals in their neighbourhood revealed four categories divided by two axes -global-local and wanted-unwanted animals. These categories arose from the way animals contested human notions of control over urban space. Most respondents chose informal green space (e.g., vacant lots, brownfields etc.) as spaces of belonging after forests and bushland.

Drawing upon recent theoretical and empirical research on liminal urban spaces, I argue with Nohl (1990) that informal green space can offer 'provisional arrangements', allowing for conciliatory engagements with animals and plants. I thus propose informal green space as potential territories of encounter -a possible path towards more-than-human cities. Finally, I discuss some implications for planning and management of interspecies interactions.

Keywords: urban geography, wildlife conflict, more-than-human, quantitative methods, belonging, posthumanism



