

# Comparative Study on Themes of Research Papers on the Research Trends of Parks and Green Spaces in Japan and Korea

Fujita, Naoko\* · Chong, Soo-Jin\*\* · Kumagai, Yoichi\* · Shimomura, Akio\*\*

\*Graduate School of Frontier Sciences, The University of Tokyo

\*\*Graduate School of Agricultural and Life Sciences, The University of Tokyo

## Abstract

The objective of our research was an international comparison focusing on studies conducted on parks and green spaces undertaken in Japan and Korea. We also aim to clarify the similarities and differences between the two countries and consider the key features of the researches on the field of landscape architecture. We compared the recent trends of Japanese institute with Korean observed in the theme of research papers adopt title of them. The research period spanned approximately twenty years, from 1980 to 2003. We employed the Table of Contents information search system to research academic journal articles and to select the journals that included articles with the key words [park(s)] or [green space(s)] in their title. We chronologically arranged the journals for each country, based on the total number of journals and classification categories. We then conducted a comparative examination among the two countries. We also contributed information on the circumstances behind the formulation or amendment of some policies and laws and we checked the results against the research trend. Among the selected journals, the number of papers was the highest by the Institute of Landscape Architecture. But the reason for increase of the number of papers on green spaces in Japanese journals was not published by the Institute of Landscape Architecture but by the City Planning Institute and the Architecture Institute. In Japan, the papers on parks categorized under *historical study* were the highest among all categories. On the other hand, in Korean journals, papers on parks categorized under *historical study* were few. A similar trend was recognized in papers on green spaces. Every society is concerned with the study of function and effect. However, some exact differences have been observed by category classification. In Japan, the percentage of function and effect papers on parks was less than those on green spaces. In Korea, both percentages for these groups were high. The category of *system and policy* accounted for 17% of the papers on green spaces in Korea. This result was higher than the number of papers on green spaces and parks in Japan and parks in Korea. Recently, the number of papers focusing on large-scale green space system has decreased in Japan. The trend in the study of parks and green spaces on a regional scale or at an individual level will be closely monitored. Systems and modeling studies have been focusing in Korea. The understanding between the administration and the citizens was peculiar to each country.

*Key Words : Comparative Study, the Research Trend, Parks, Green Spaces, Japan and Korea*

## I. INTRODUCTION

The objective of this study is to compare the recent trends observed in the research theses, involving parks and green spaces in Japan and Korea. We also aim to clarify the similarities and differences between the two countries and consider the key features of the research on landscape architecture in each country. In one of the papers that we referred to, Koshimizu and Kumagai (1985) described the diversification of the studies in the field of landscape architecture. They conducted a frequency distribution analysis based on the key words in landscape journals. The Committee of the Japanese Institute of Landscape Architecture (1991) has also investigated these trends of study by creating a model of the journal database. Both the above researches explained the trends in the broad field of landscape architecture. On the other hand, in the last ten years, there have been papers describing the trends of study in the fields of bio and landscape conservation and biodiversity conservation. These papers have reported the matter covered in some theses; however, these data have not been verified by the process of numerical analysis. An article by Takahashi and Shimomura (2002) focused on the boom in "Gardening" that was determined from the trends observed in magazines, books, and articles. We investigated the research trends of parks and green spaces through the process of numerical analysis. The research period extended from 1980 to 2003. We employed the Table of Contents information search system to research articles from academic journals in each country and to select the journals that included articles with the key words [park(s)] or [green space(s)] in their title. For each country, we chronologically arranged these journals, based on the total number of journals and classification categories. We then conducted a comparative examination between the two countries.

## II. METHODS

### 1. The Research Subject

We analyzed journals published by the largest institutes in the fields of landscape architecture, city planning, and architecture. We selected the papers that included articles with the key words [park(s)] or [green space(s)] in their title. The criterion of "paper" was inserted on institute journal, which composed of title, author, institute, text, references. Therefore, feature articles, columns, and reports were excluded from this study. Contributed articles, doctoral theses published by Universities, and papers published by public institutions were also excluded. Even though we could recognize the merit of some of the newly established academic institutes, they were excluded from this research. In order to reduce the disparity in the search quality between Japan and Korea, we used the information search system appertaining to the national library of each country (Table 1). In the case of Japan, the national diet library contains a table of contents information search system for Japanese-language journal articles.

### 2. Analysis

First, papers that researched natural parks were excluded (natural park law includes the words: national parks, quasi-national parks, and prefectural natural parks). Second, an admissible number of papers were collected and classified according to categories and key words. Tables 2 and 3 display the types of categories as well as the criterion and procedure of classification. We referred to Koshimizu and Kumagai (1985) for determining the study field classification and the Committee of the Japanese Institute of Landscape Architecture (1991) for iden-

Table 1. Information search system for journals

Japan	
name	国立国会図書館 The National Diet Library of Japan
website	http://www.ndl.go.jp/
journal search system	a table of contents information search system for Japanese-language academic journal articles.
website	http://opac.ndl.go.jp/Process?MODE=11010001=1&SEARCH_WINDOW INFO=06&LS=166765970
language	only Japanese
variety	about 10,000 journals
Korea	
name	국회도서관 The National Assembly Library of Korea
website	http://www.nanet.go.kr
journal search system	a table of contents information search system for Korean-language academic journal articles.
website	http://www.nanet.go.kr/dweb/hp/k04_sojangsearch.html?nav=040100
language	only Korean
variety	about 19,000 journals

Table 2. Type of category and their study fields

Type of category	Study field
management	method of management, maintenance, administration
function and effect	function, effect, evaluation, image
planning	method of planning, object of planning, conception
research	method of research, method of analysis
material	plant material, material, facility
history	history, historical theory
system and policy	system, policy
construction	method of construction, object of construction
design	method of design, object of design
biology and ecology	ecology, biology
distribution	distribution, arrangement, conditions of location
inorganic environment	meteorology, temperature, soil
use	experience, activity

Table 3. Criterion of category classification

Criterion of category classification
① category words included in the title.
② words similar to category words included in the title.
③ check the comparability of the word with its meaning from the context
④ determine when suitable for Table 3.
⑤ if not suitable for ①, repeat ②③④

tifying the types of categories. The denomination categories were as follows: *management, function and effect, planning, research, material, history, system and policy, construction, design, biology and ecology, distribution, inorganic environment, and use*. A paper was selected if a word in its title was identical to or synonymous with the denomination of the category. However, we were often confronted with words that could not be correctly classified. In such cases, we closely examined whether the title of the paper covered the category. Some titles consisted of multiple category words, in this case, we selected the most important word based on the focus of the study.

### III. RESULTS

#### 1. Variation in the Number of Papers in Each Country

##### 1) Japan

The analyzed journals were "Landscape Research Japan(ランドスケープ研究, 1994年まで造園雑誌) (Journal of the Japanese Institute of Landscape Architecture)" published by the Japanese Institute of Landscape Architecture (日本造園学会), "Journal of the City Planning Institute of Japan (学術研究発表会論文)" and "City Planning Review (都市計画)" by The City Planning Institute of Japan (日本都市計画学会), and "Journal of Architecture and Planning (日本建築学会構造系論文集)", "Journal of Structural and Construction Engineering (日本建築学会構造系論文集)", and "Journal of Environmental Engineering (日本建築学会環境系論文集)" by the Architectural Institute of Japan (日本建築学会). The number of papers from the journal by the Japanese Institute of Landscape Architecture amounted to 294 (park: 186 + green space: 108), those by The City Planning Institute of Japan amounted to 84 (park: 47 + green space: 37), and those by the Architectural Institute of Japan accounted for 60 papers (park: 40 + green space: 20). Figures 1 and 2 show the variations in the number of papers on parks and green spaces. The total number of papers before 1984 was five or less. In 1984, however, this number increased to 12. From 1984 to 2003, it steadily increased. A similar trend was observed in parks and green spaces. Among the selected journals on parks, the number of papers was the highest by the Japanese Institute of Landscape Architecture except in 1981. By the City Planning Institute of Japan, the number of papers was two or less before 1997, and more than four after 1998. Similarly, by the Architectural Institute of

Japan, the number of papers was two or less before 1996 and more than four after 1998. With regard to journals on green spaces, a minimum of zero and a maximum of eight papers appeared by the Japanese Institute of Landscape Architecture during the 6th~10th cycle years. By the City Planning Institute of Japan, however, two to three years before 1994, the number of papers ranged from zero to two, and an average of three papers appeared after 1998. The reason for increase of the number of papers on green spaces was not published by the Institute of Landscape Architecture but by the City Planning Institute and the Architecture Institute.

## 2) Korea

The analyzed journals were the "Journal of Korea Institute of Landscape Architecture (한국조경학회지)" published by the Korea Institute of Landscape Architecture (한국조경학회), the "Journal of the City Planning Institute of Korea (국토계획)" by the City Planning Institute of Korea (대한국토도시계획학회), and the "Journal of the Architectural Institute of Korea (건축학회지)" by the Architectural Institute of Korea (대한건축학회). The number of papers by the Korea Institute of Landscape Architecture amounted to 169 (park: 108 + green space: 61), those by the City Planning Institute of Korea amounted to 12 (park: 8 + green space: 4), and those by the Architectural Institute of Korea accounted for 25 papers (park: 2 + green space: 23). Figures 3 and 4 show the variation in the number of papers on parks and green spaces. The total number of papers on parks was two for nine years before 1988, and the total number of papers on green spaces was four for 11 years before 1990. The "Journal of the Korea Institute of Landscape Architecture" accounted for 91% of the papers. In the years 1991, 1993, 1996, and 1999, one to three papers appeared in the "Journal of the City Planning Institute of Korea."

Further, one paper appeared in the years 1990 and 2002 in the "Journal of the Architectural Institute of Korea." In the selected journals on green spaces, an average of 3.7 papers a year appeared after 1991, except in the "Journal of the Japanese Institute of Landscape Architecture" in 1998. In addition, four papers appeared every year after 1999, and 12 papers appeared in 1998. In the "Journal of the City Planning Institute of Korea," one paper appeared in the years 1991, 1995, 2001, and 2003. In contrast, a maximum of five papers appeared during the 10 years from 1993 to 2003 in the "Journal of the Architectural Institute of Korea" although no paper had appeared before 1992.

## 2. Variation in the Category Classification of Each Country

### 1) Japan

In the studies on parks, the category of *historical study* recorded the highest number of papers, and this was maintained every year except 1981, 1983, and 2000. The period spanning six years, from 1990 to 1995, displayed the highest increase in this category. Following this period, the number of papers stabilized at an average of three to four. The category of *use* recorded the second highest percentage at 15.6%. Before 1983, the studies on parks were restricted to the categories of *historical study* and *distribution*. However, nine categories were identified in 1984 and these gradually increased until 2003. In the studies on green spaces, the category with the highest percentage was *function and effect* at 18.2%. This category was followed by *distribution* and *inorganic environment* at 16.4% and 15.2%, respectively. Before 1984, the studies on green spaces were restricted to the categories of *function* and *effect* and *distribution*. However, five types of categories were identified in 1985 and these continued to increase, and

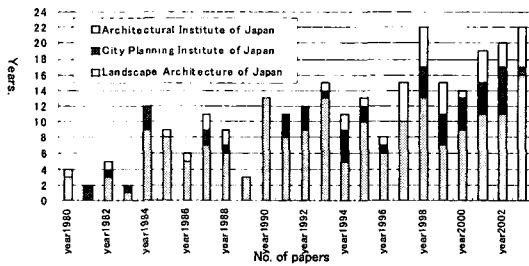


Fig. 1. Number of journals on [park(s)] in Japan

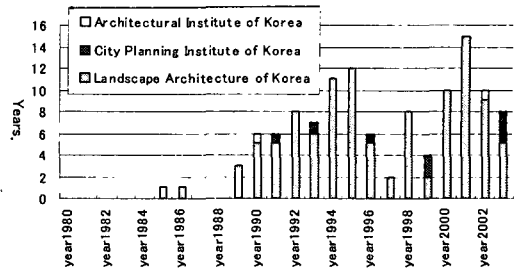


Fig. 3. Number of journals on [park(s)] in Korea

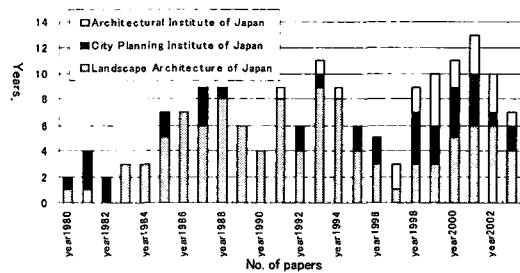


Fig. 2. Number of journals on [green space(s)] in Japan

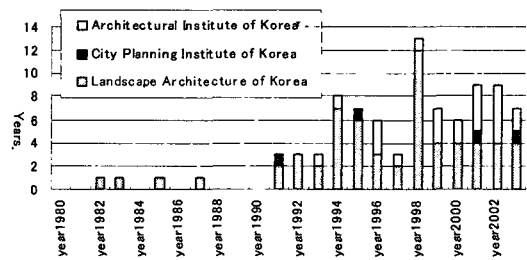


Fig. 4. Number of journals on [green space(s)] in Korea

finally, six to eight types of categories were identified after 1998.

2) Korea

In the studies on parks, the category with the highest percentage was *function and effect*, at 24.8%. This was followed by *use* at 13.7%. The variety in the types of categories gradually increased from 1980 until 2003. With regard to the studies on green spaces, the categories with the highest percentages were *function and effect* and *inorganic environment*. From 1991 until 1993, the studies on green spaces were restricted to less than three categories. However, five types of categories were identified in 1994 and these continued to increase until 2003.

IV. COMPARISON AND DISCUSSION

We investigated the differences and similarities between Japan and Korea based on the variations in the number of papers and kinds of journals and the

effects of the variations on the category classification within each country. In addition, we drew a comparison between the two countries, in terms of the research conducted on parks and green spaces in the field of landscape architecture. Finally, we discussed these results based on the results of the key word classification or from the viewpoint of the social conditions and the system of laws.

1. Comparison Among Institutions

In the Architectural Institute, papers on parks increased after 1997 in the journal of the Japanese institute: however, few papers appeared in the journal of the Korean institute. Papers on green spaces appeared after 1997 in the journal of the Japanese institute: similarly, they appeared after 1996 in the journal of Korean institute. In the City Planning Institute, papers on parks and green spaces appeared intermittently in the journal of Japanese institute, and an increase was observed in the latter half the 1990s.

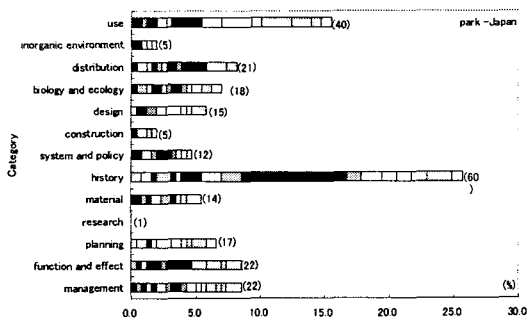


Fig. 5. Category classification of [park(s)] in Japan

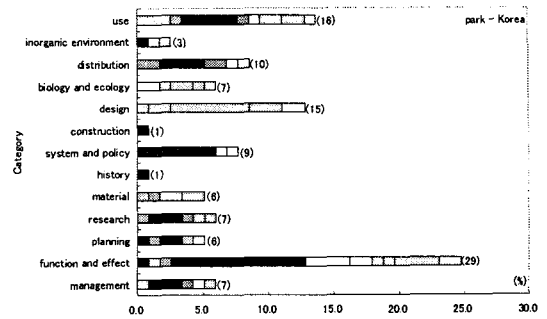


Fig. 7. Category classification of [park(s)] in Korea

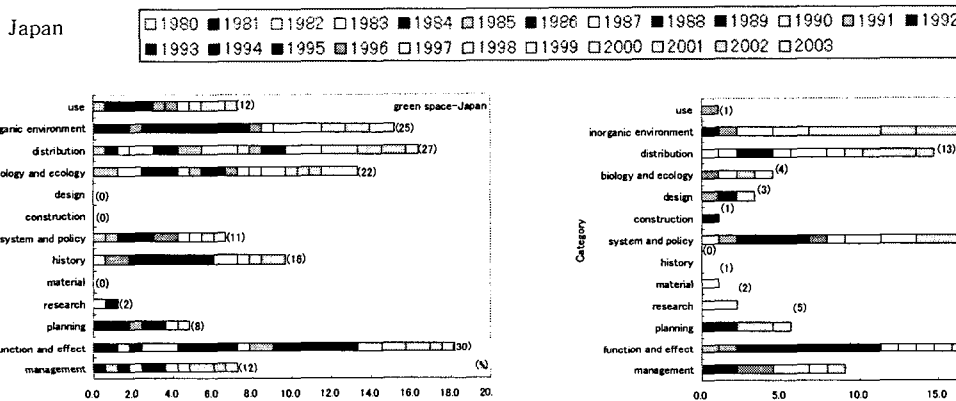


Fig. 6. Category classification of [green space(s)] in Japan

Fig. 8. Category classification of [green space(s)] in Korea

In Korea, however, a limited number of papers on parks and green spaces appeared in the journal by the City Planning Institute. Further, a trend of increase as identified in the case of its Japanese counterpart could not be identified here.

## 2. Comparison and Discussion of the *Historical Study* Category

In Japan, the papers on parks categorized under *historical study* accounted for 25.7% (66), which was the highest among all categories. On the other hand, in Korean journals, papers on parks accounted for only 0.9% (1). A similar trend was recognized in papers on green spaces: in Japanese journals *historical study* accounted for 9.7% (16). However, this category was

absent among Korean journals. The category of *historical study* roughly increased from 1990 until 1995. During that time, they groped for new model, which was adaptation to domestic styles. Until this period, they followed the model used by the western countries.

## 3. Comparison and Discussion of the *Function and Effect* Category

Every society is concerned with the study of *function and effect*. However, some exact differences have been observed by category classification. In Japan, the percentage of *function and effect* papers on parks was less than those on green spaces (8.6% and 18.2%, respectively). In Korea, the percentages

for these groups were high (24.8% and 20.5%, respectively). Therefore, in Japan, green spaces rather than parks have more potential as research sites for *function and effect* studies. In Korea, however, both parks and green spaces have equal potential as research sites for *function and effect* studies.

#### 4. Comparison and Discussion of the System and Policy Category

The category of *system and policy* accounted for 17% (15) of the papers on green spaces in Korea. This result was higher than the number of papers on green spaces (6.7%) and parks (4.7%) in Japan and parks in Korea (7.7%). The establishment of management systems is of more importance in the Korean society than in the Japanese society: and the study trends reflect this observation. Individual case studies on the conservation of green spaces were outstanding in Japanese journals: on the other hand, studies on the overseas political constitution and the modeling process were outstanding in Korean journals. Thus, the focus of the research suggests that researchers in Korea are mainly concerned with the political aspect.

### V. ASSIGNMENT

The understanding between the administration and the citizens was peculiar to each country. Recently, in

Japan, journals focusing on citizen participation and green spaces or parks have attracted considerable attention. The trend in the study of parks and green spaces in Japanese society, whether on a regional scale or at an individual level, will be closely monitored. Recently, the number of papers focusing on large-scale green space system has decreased in Japan. On the other hand, studies in Korea have been focusing on systems and modeling. Until recently, citizen participation was rarely mentioned in the Korean journals. This study, however, is based on the existent category classification. Thus, we can hardly declare that the above research trends are a result of the category classification. Hence, an additional examination of the analysis methodology is extremely essential.

### REFERENCES

1. H. Koshimizu and Y. Kumagai (1985) Diversification of Study of Landscape Architecture, *Journal of the Japanese Institute of Landscape Architecture* 48(4), 250-255.
2. Committee of the Japanese Institute of Landscape Architecture (1991) Analysis trend of Study of Landscape Architecture, *Journal of the Japanese Institute of Landscape Architecture* 55(2), 192-197.
3. K. Fukamachi (2000) Study trend of organization and landscape in recent 10 years, *Landscape Research Japan* 63(3), 178-181.
4. Kuramoto, et al. (2001) Study trend of conservation biodiversity, *Landscape Research Japan* 64(4), 288-293.
5. C. Takahashi and T. Shimomura (2002) Actual conditions of boom in gardening from trend of magazines, books, and articles, *Landscape Research Japan* 65(5), 397-400.