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Researches on the Visitor's Activities and the Barrier Status around Kairakuen Park

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Introduction

The Ministry of Land, Infrastructure and Transport developed a model project in 2003 to help community-based people work together to create advanced space for sightseeing and exchanges with the help of measures and companies involved in the hardware and software business. The model project that was named "Creating Space for Sightseeing and Exchanges" designated eight regions as the place to put the project into operation as part of its activities. In one of the eight designated areas, "Conference to promote the collaborative project for Hitachi and Fusa" that covers an extensive area astride Ibaraki and Chiba Prefectures made a step forward to promote the tourism business. The conference conducted survey on sightseeing resources in the middle and north parts of Ibaraki Prefecture and found that Kairakuen Park is the core of the sightseeing resources and an important sightseeing spot of the region. That is, improved charm of space in Kairakuen Park will result in activating tourism that is closely related to the regional resources.

At the same time, Agency of Cultural Affairs has been focusing on measures to utilize cultural assets in present-day Japan since it implemented a special project for the utilization of historical sites in 1989. The public in general strongly requires measures for a barrier-free environment in the move to construct a welfare society. Cultural assets are not an exception, and the move to utilize historical sites also needs barrier-free measures. In June 1994, the law to facilitate the construction of specific buildings easily accessible by elderly and physically handicapped people (Heart Building Law) was put into effect. This law is designed to promote quality of buildings and enhance public welfare for the purpose of facilitating the construction of buildings that the elderly people who have some limit on their daily and social life, the physically-handicapped people and those who have some limit on their daily and social life can use without difficulty. In November 2000, the Heart Building Law was followed by Barrier-Free Transportation Law that is a law to facilitate the movement of elderly and physically handicapped people by public means of transport without difficulty.

Barrier-free measures are not necessarily enacted well at historical sites and sightseeing spots despite the implementation of the above laws and other ordinances. In these social circumstances, Okamoto et al. drew a map of the barrier-free status in Kairakuen Park in "Research on Barrier-Evaluation Method for Wheelchair Users around Kairakuen Park."

In this research, we conducted a questionnaire survey on the utilization at Kairakuen Park and clarified the routes frequently used by visitors to know well about characteristics and value of Kairakuen Park. Besides being an important sightseeing resource in Ibaraki Prefecture, many people visit Kairakuen Park in occasions other than during the Plum Festival as a recreational space. It is our belief that this research will contribute

to the effective improvement of barrier-free measures in Kairakuen Park and reduce barriers that handicapped people feel with the limited budget.

Methods

This research aims to clarify the current status of Kairakuen Park in Mito in Ibaraki Prefecture that is one of the three most famous Japanese gardens across the country and the place of recreation and relaxation for Mito citizens, and to explore the way to have it used equally by healthy people and wheelchair users.

We first conducted a survey on how Kairakuen Park is used by healthy people and found that it is used not only at the time of event but also on ordinary holidays. We also realized that it is used by people of various generations and from various places, loved by people regardless of age and sex, and attractive enough to induce people living outside Ibaraki Prefecture to visit. Kairakuen Park is used by people for various objectives, and we concluded that it can satisfy lots of needs that people have in their minds.

Next, we conducted a survey on how visitors wander inside Kairakuen Park to know how it is used by them. Following this survey, we conducted a questionnaire survey for handicapped people to know whether or not they have visited a sightseeing spot so far and what they are concerned about during their visit to Kairakuen Park. This survey leads to our understanding that they are concerned most about the current barrier status.

In the last stage, we merged the barrier-free map drawn by Ibaraki University and data we obtained through the survey on the wandering behavior, and drew the priority route map for barrier-free improvement. This map gives priority for eliminating barriers within the spots in Kairakuen Park where many people are wandering.

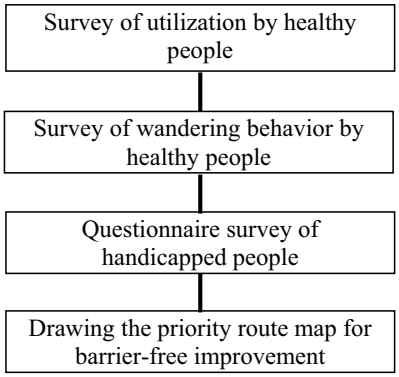

Figure 1: Research methodology.

Figure 1 shows the methodology of our research.

About Kairakuen Park

Kairakuen is a Japanese garden located in Mito city of Ibaraki Prefecture. It is as famous as Korakuen in Okayama city and Kenrokuen in Kanazawa city, and these three Japanese gardens are called the three most famous Japanese gardens across the country. Kairakuen was constructed by the ninth generation in Mito clan of feudal lord Nariakira Tokugawa in July 1842. Nariakira crumbled Mt. Shichimen that faced Lake Senba and created a place where samurai who trained themselves at the Koudoukan hall to become both a good worrier and a good scholar could take a rest and mingle with people of the domain. He named this place Kairakuen. It was renamed Kairakuen Park when Kairakuen acquired the neighboring Senba Park in July 1999. Now it has a total area of 300 hectares, and it is world's second largest park adjacent to the urban district, following the Central Park in New York.

Kairakuen main-park itself is about 13 hectares in area where 3,000 plum trees of 100 kinds are implanted. It holds the Plum Festival from late February to late March every year and has about 1.3 million visitors annually. Besides being famous for plum trees, Kairakuen has lots of places of interest of each season. Visitors can enjoy cherry trees in spring, crimson Kirishima azaleas in early summer, brilliant green mousou bamboos and Japanese cedar trees in midsummer, and lovely bush clovers and maple trees in autumn. They are moved by the impressive scenery that overlooks Lake Senba through these seasonal attractions. Moreover, plum trees of various kinds, such as "Tazunaki", "Shoujyou" and "Youchou" are implanted in the new park that expanded below Kairakuen Park. In addition, the new park is studded with lawn fields of the four seasons and ponds where waterfowls play. Visitors can enjoy this vast area in a relaxed manner, and people of Mito city use it as a recreational place in their daily life without reservation.

Table 1: Summary of survey on utilization.

Survey in March 2002	Event	Plum festival
	Number of Respondents	371 people
	Questionnaire method	Interview
	Dates of survey	March 13, 2002, Thursday
		The fourth plum appreciation day: March 17, 2002, Sunday
	Area covered	Whole area of Kairakuen
Survey in December 2005	Event	None
	Number of Respondents	108 people
	Questionnaire method	Interview
	Dates of survey	December 28, 2005, Sunday
	Area covered	Whole area of Kairakuen

Survey on utilization of Kairakuen Park

We conducted survey on utilization of Kairakuen Park when an event was held in the three years from 2002 to 2004 and on holidays in December 2005. In this research, we studied utilization of Kairakuen Park by looking into the attributes of visitors, purposes of visit, and wandering routes during the Plum Festival in 2002 and on holidays in 2005. Table 1 shows the brief summary of survey on the event day (Plum Festival) and ordinary holidays. Figure 2 indicates the age groups of visitors in the Plum Festival, while figure 3 shows those on ordinary holidays. No great difference in age group was observed between visitors during the Plum Festival and those on ordinary holidays.

We also inquired into the departure places of visitors of Kairakuen Park. The departure places of visitors during the Plum Festival are shown in figure 4, and those of visitors on ordinary holidays in figure 5. As these two figures indicate, sightseers from other prefectures account for as much as about 72% of all visitors during the Plum Festival, whereas about 80% of visitors on ordinary holidays are people living in Mito city. This figure indicates that Kairakuen Park is widely used by people of Mito city in their daily life.

Next, we inquired about the purpose of utilization of visitors of Kairakuen Park. Figure 6 indicates purposes of visit that visitors raised during the Plum Festival, while figure 7 shows those given by visitors on ordinary holidays. Figure 7 clearly indicates that people of Mito city use Kairakuen Park for exercise on ordinary holidays. Next, we looked into the wandering behavior of visitors of Kairakuen Park by purpose. The survey results collected during the past three years made us confirm that visitors concentrated on the main park of Kairakuen from each parking lot. Figure 8 indicates the wandering behavior of total visitors on ordinary holidays; figure 9, that of visitors for a walk; figure 10, that of those visitors who let children play; and figure 11, that of visitors for sightseeing.

The red part gives the routes that visitors with a specific purpose usually take. Pink, yellow, blue, and green are used besides red to show the five stages. As a whole, many wandering patterns were observed around Lake Senba, and they cover the whole of Kairakuen Park. Figures 8 and 9 give almost the same tendency because people who visit for a walk account for almost 60% of all visitors. Many families who visit to let their children play are found in the field of the four seasons, which offers one of the appealing points of Kairakuen Park. We found that Kairakuen Park is used for diverse purposes and visitors give a tendency to select places depending on the purpose of visit.

Questionnaire survey for handicapped people:

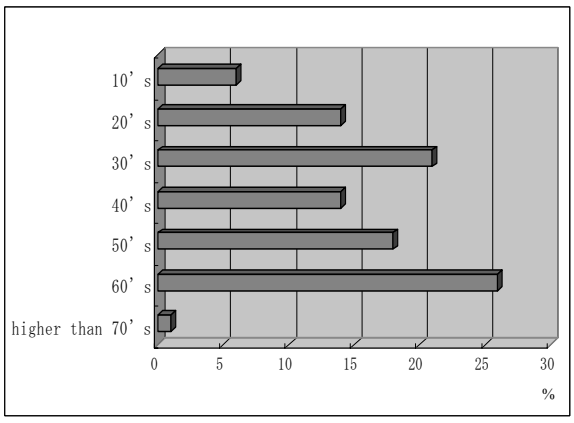

Figure 2: Age groups of visitors during the plum festival.

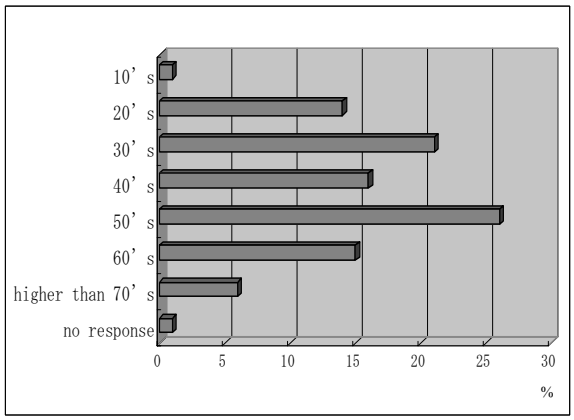

Figure 3: Age groups of visitors in ordinary holidays.

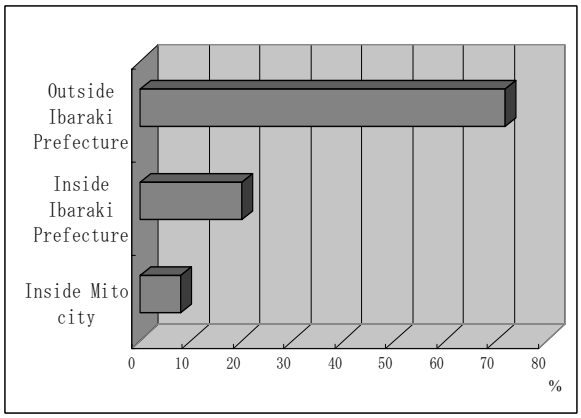

Figure 4: Hometowns of visitors during the Plum Festival.

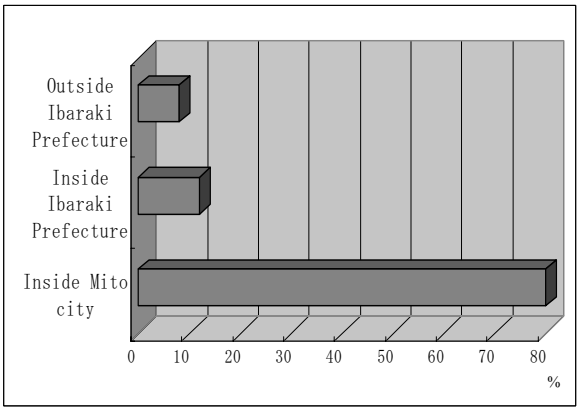

Figure 5: Hometowns of visitors on ordinary holidays.

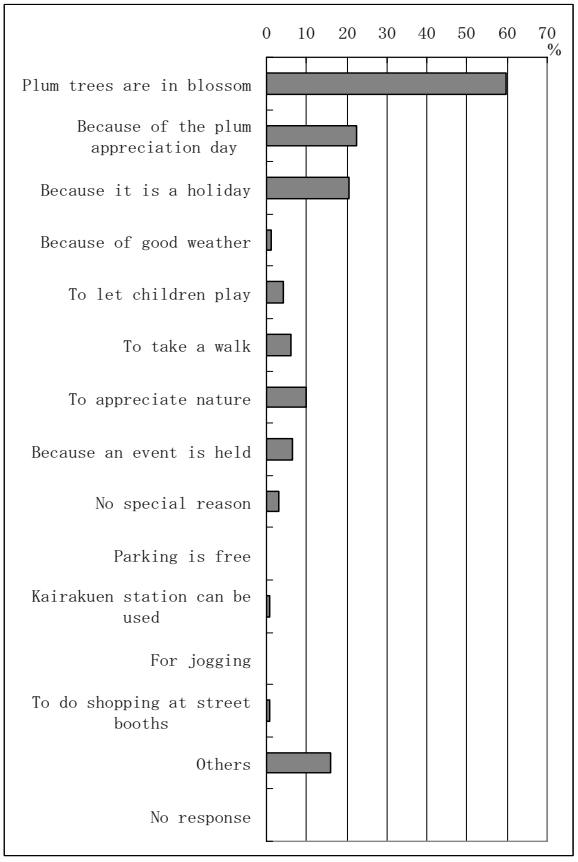

Figure 6: Purposes of visit during the Plum Festival.

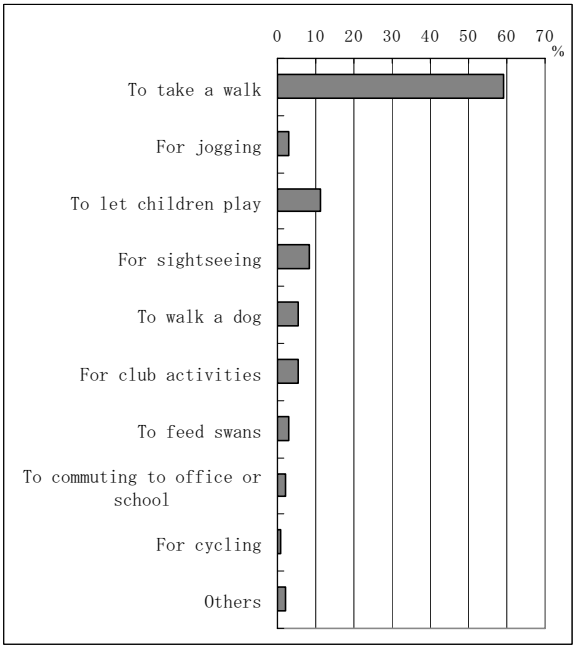

Figure 7: Purposes of visit on ordinary holidays.

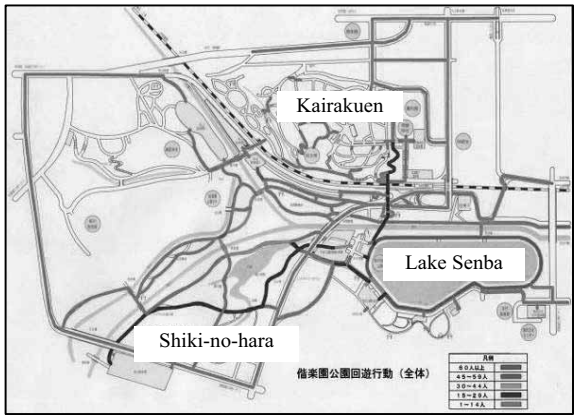

Figure 8: Wandering behavior (total).

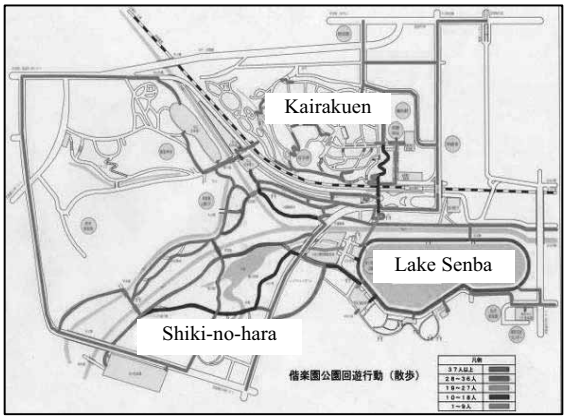

Figure 9: Wandering behavior (for walking).

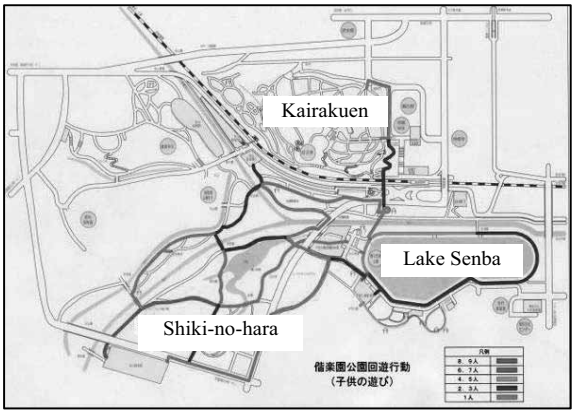

Figure 10: Wandering behavior (to let children play).

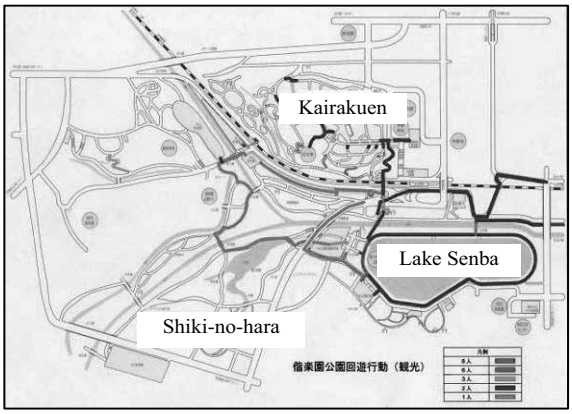

Figure 11: Wandering behavior (for sightseeing).

We conducted a questionnaire survey for people suffering from handicaps in orthopedics, hearing, or vision to know whether they had been to sightseeing spots and what they required of the sightseeing spots they visited. People subject to the survey were those who are active in handicapped facilities. We sent the questionnaire survey to them through the facility managers and got the survey back to us. Because we received 55 copies out of 120 copies that were sent, the collection rate was 45.8%. In terms of attributes of handicap, about 59.5% of respondents were wheelchair users. Every respondent was orthopedically impaired.

Figure 12 shows the results of the question about whether or not they visited a sightseeing spot, and figure 13 indicates the interest that they got in the sightseeing spot they visited. We learned that 55% of handicapped people had never visited a sightseeing spot. This is presumably because they have limited field of activities and because measures for

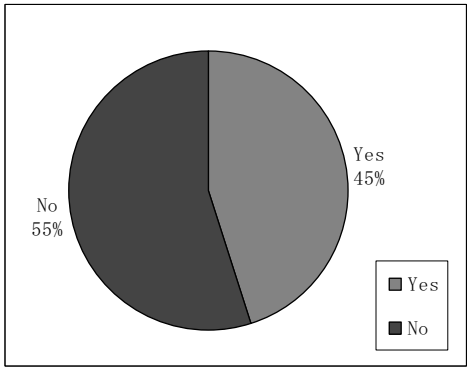

Figure 12: Existence of experience which visited the tourist resort.

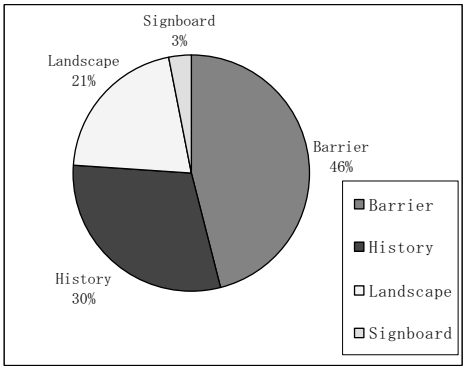

Figure 13: The item of interest of a tourist resort.

Table 2: Brief summary of barrier survey.

Date of survey	October 29,2003
Place of survey	Inside Kairakuen Park
No. of researchers	3 wheelchair users, 3 caretakers, 20 students of Ibaraki University, 2 Ibaraki prefectural staffs, 1 park administrative
Method of survey	Field survey using questionnaire sheets

barrier-free are not adequately enacted. We also learned that handicapped people who had ever visited a sightseeing spot gave higher priority to the current barrier status than to the history and scenery of the sightseeing spot they visit, showing they are interested in barrier-free most.

Table 3: The Difficulty Level Evaluation Method for Route 'pass' ability (created by Ibaraki University).

Difficulty Level	Life Support Mito and Ibaraki University
A	・No difficulty
B	・Possible to get around by oneself
C	・Possible to get around either if able to control a wheel-chair well or if have a helper with oneself in case of a senior
D	・Must have a helper with oneself (the height of a step being within 10-15cm, in which case the front wheels can go beyond it while the back wheels can't)
E	・Impossible to get around (possible when having two helpers to lift the wheel-chair) ・Stairs having a few steps or step being more than 15cm high
F	・Impossible to get around (possible when having more than three helpers, or totally impossible) ・Stairs having more than three steps

Barrier survey in Kairakuen Park

In this research, we refer to the barrier map of Kairakuen Park drawn through the research by Okamoto et al. Table 2 shows the brief summary of the barrier survey.Kairakuen Park developed its own "Method to judge the difficulty level of routes of the Ibaraki University type" with reference to the difficulty levels set up by Tokyo Metropolis (table 3). Figure 14 shows the barrier map of Kairakuen Park that it drew using the above method. This barrier map is put on the website of department of park administration of civil engineering division of Ibaraki Prefecture. (http://www.pref.ibaraki.jp/bukyoku/doboku/01class/class11/index.html.)

Figure 14 indicates that there are various difficulty levels of barriers inside Kairakuen Park. Moreover, lots of barriers exist in Kairakuen main-park that makes rather hard for handicapped people to

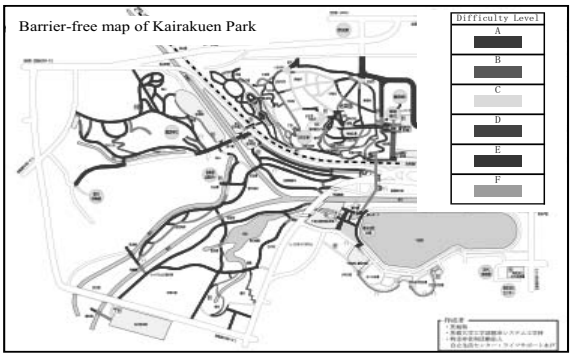

Figure 14: Barrier-free map of Kairakuen Park.

wander. When we examined the entire Kairakuen Park, we found that most barriers are in the difficulty levels of A and B (filled in blue and green). In addition, there seem lots of routes that allow handicapped people walk without support, and only a few barriers exist. In reality, however, there are lots of small-scale barriers that prevent walking without support. This prevents handicapped people from wandering in Kairakuen Park.

Proposal for improvement of the barrier-free status in Kairakuen Park

In this research, we wish to propose that an order of priority should be established for the improvement of the barrier-free status inside Kairakuen Park to organize a barrier-free environment efficiently with the limited budget. The priority of each route was decided with reference to the wandering behavior on ordinary holidays (figure 8) that was drawn on the basis of the utilization survey and the barrier-free map (figure 14). We gave the highest priority to the red points in figure 8 that are equivalent to the points with the difficulty levels from C to F in figure 14, and gave the next highest priority to the points in pink that are equivalent to the points with the difficulty levels from C to F in figure 14. Table 4 shows the level of importance of each route, on which the order of priority of barrier-free improvement in Kairakuen Park is based as indicated in figure 15.

Table 4: Order of priority of barrier-free improvement.

Wandering behavior	Difficulty level in barrier map (C-F)	Priority of improvemen	Map of improvement
Red	Not-applied		
Pink	Not-applied		
Yellow	Applied	1	
Blue	Applied	2	
Green	Applied	3	

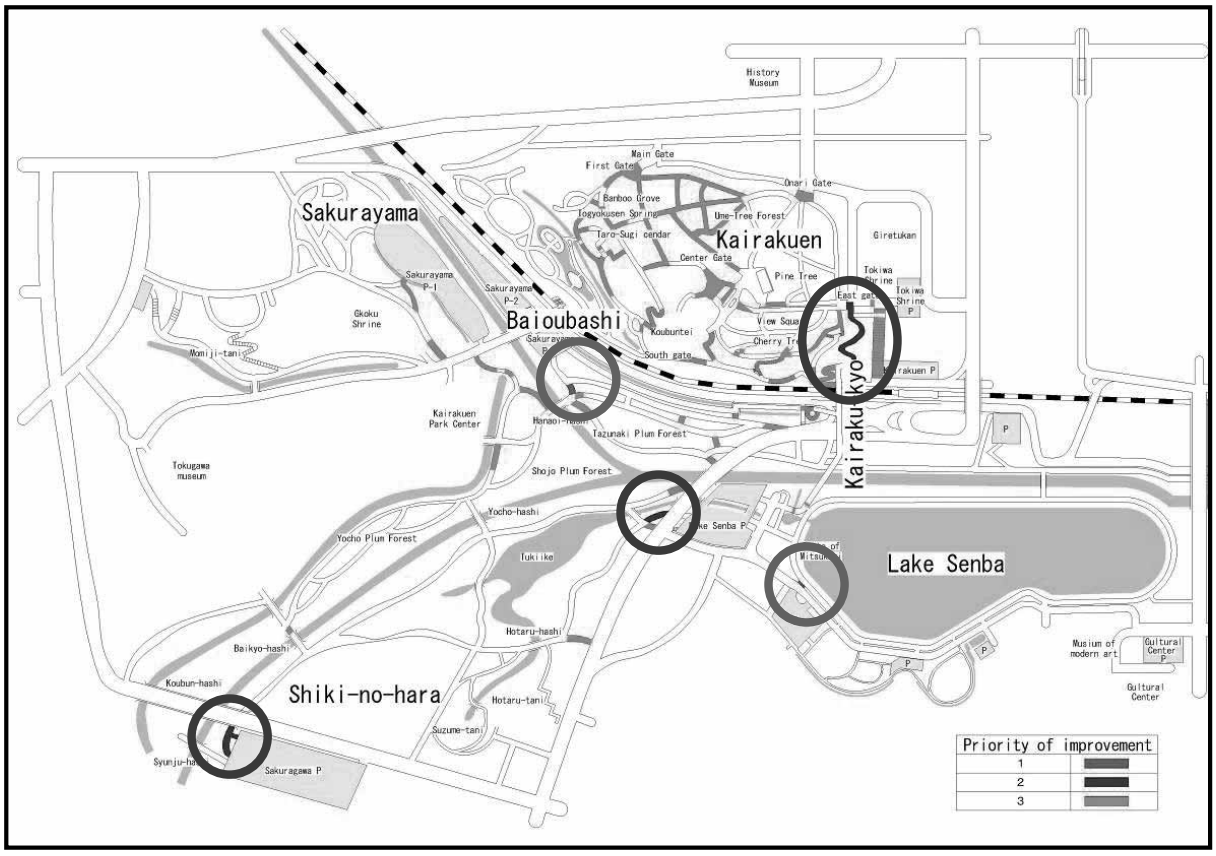

Figure 15: Route map of priority of barrier-free improvement.

It is most effective to improve the barrier-free situation according to the order from red, blue, and to green to allow handicapped people to enjoy the same wandering behavior as healthy people do on ordinary holidays. The priority to improve barrier-free status in Kairakuen main-park is low because the number of healthy visitors is small from the point of view that it is used on ordinary holidays. Moreover, none of the red and pink routes that provide lots of wandering behavior in figure 8 prevents handicapped people from wandering without support. In addition, the red route has two points that need improvement, and the blue route has three such points. It is necessary to work out a method of improvement, but we think that this situation can be improved without delay.

Results

In this research, we studied the utilization status, purposes of usage, and wandering behavior of visitors of Kairakuen Park in association with the improvement of sightseeing resources. From the questionnaire survey given to handicapped people, we learned what interested them in sightseeing spots. And we drew a map to show the order of priority to improve the barrier-free status using the wandering routes made clear by the utilization survey and the barrier-free map of Kairakuen Park. In the future, effective improvement is strongly sought in light of the current situation that requires improvement with the limited budget.

For public relations of sightseeing in the future, demand grows stronger for transmission of information that goes particulars and satisfies the needs of Internet users because the Internet will be used more frequently. Everyone can download the barrier-free map drawn by Ibaraki University freely and share it with others without any restriction. We participated in the walking tour of Kairakuen Park with wheelchair users in March 2006. We enjoyed the tour following the route that we selected according to the barrier-free map published by Ibaraki University we carried in our hands. Judging from the reality that information truly required by users is invariably used, we think that detailed information on route by purpose of visit and by utilization of visitors is in great demand.

In this research, the priority of improvement of the barrier-free status is based on the data obtained from wandering behavior on ordinary holidays. This is because Kairakuen Park aims to be a park that enables handicapped people to enjoy throughout the year by placing emphasis on its characteristics that offer visitors opportunities to enjoy scenery of the four seasons. We are planning to respond to the requirements of handicapped sightseers from a long distance by drawing a route map with the improvement priority of the barrier-free status drawn on the basis of the wandering behavior when an event is held like the Plum Festival that symbolizes Kairakuen Park most.

It is our belief that the priority map to improve the barrier-free status drawn in the course of this research will be used to improve Kairakuen Park and promote the utilization of handicapped people. This promotes the tourism business and activates the regional industry, and ultimately makes Kairakuen Park loved more by local residents and sightseers whether or not they are handicapped.

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