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Public green space and disabled users

Klaus Seeland*, Simone Nicolè

Department of Environmental Sciences, Institute Human-Environment Systems, Swiss Federal Institute of Technology, ETH Zentrum, CHN J 75.3, CH-8092 Zurich, Switzerland

Abstract

Social statistics indicate that the proportion of disabled people in the economically developed societies of the Western world is increasing. Thus more and more people are relying on special assistance and services. Environmental pollution and individual stress pose significant burdens to the majority of the constantly increasing urban population, especially the disabled, because they are dependent on suitable environments to serve their needs. These problems need to be remedied through planning and management. An empirical survey of the Isle of Mainau, located on Lake Constance in Southern Germany, shows that people with officially recognised disabilities feel stigmatised by green space that is specially designed for visitors with handicaps. People with lighter handicaps would like to have more attention and services rendered to them. 'Standard users', particularly those of higher income with better education, are reluctant to concede the entire island park's design and infrastructure to accommodate the needs of disabled visitors.

Keywords: Disability; Green space planning; Handicapped people; Social inclusion; Isle of Mainau

Introduction

People with physical or mental handicaps are often excluded from social life in public urban green space. They are part of human society, but they participate in it only to a limited extent, because of their special needs and adaptations necessary for their respective disabilities. These handicaps, mental or physical, are important dimensions to be taken into account in the process of designing and planning social infrastructures (Cattelino, 1988; Antoninetti, 1991). The current concept of disability throughout modern European societies formally distinguishes people officially recognised as being handicapped from all others by granting them legal or administrational privileges. The statistical rise in disabled people indicates that our society is becoming increasingly assistance prone and dependant upon others. Environmental pollution and individual stress are significant burdens to the majority of the urban population, especially the disabled (Doxson et al., 1987; Grahn and Stigsdotter, 2003; Herzog et al., 2003), because they are more exposed and vulnerable to these phenomena. There is a great need to find remedies and adequately manage these problems. In the process of the development of the human personality, one of the deficiencies in modern and post-modern societies is that our realities are becoming predominantly virtual and are set largely indoors. Life, both professional and private, is primarily spent in front of computers or television screens in air-conditioned rooms or on the phone while driving in cars and trains. Spending time in the natural world has long become a purposive action; that is, we go outdoors for sports, leisure time activities, and therapeutic retreats on weekends and holidays.

*Corresponding author. Tel.: +41 1 632 32 19; fax: +41 1 632 11 10.
E-mail address: klaus.seeland@env.ethz.ch (K. Seeland).

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Public green spaces are designed to offer green environments for recreation or as meeting places to all social categories of people. For a variety of reasons, users with handicaps or disabilities often receive limited benefits from these public places.

The lifestyles in modern and post-modern societies are highly standardised and adhere to uniform norms and viewpoints in order to keep costs low. People with special needs often cannot adjust to these norms. Such standards are not appropriate for them; they require assistance; individual attention; and to an extent, their own infrastructure (Bizzarri, 2000; Recktor, 2003). A broader concept of being handicapped reflects the relationship between a group or individual's specific type of handicap and the environment he or she lives in. Having adequate green space, outdoor amenities, and related services for these populations depends upon understanding the needs of their respective handicaps (Pacione, 2003).

The number of disabled people in Germany over the recent decade has been steadily increasing over the past decade, except in 2003, presumably because of an over-ageing population. In 2001 more than 6.7 million, out of a total population of 82.44 million, were registered as disabled, which accounts for 8.1%. This is only half of the percentage reported in the European Union (EUROSTAT, 2001).

With a birth rate of 0.86% and negative growth in 2001, the percentage of disabled people in Germany's population is a substantial factor in public social life. Given that the actual number of disabled is presumably much higher – because many people feel ashamed of their disabilities, particularly the elderly, and avoid applying for the official status – disabilities are not unusual, but rather are an ordinary dimension of modern post-industrial society.

The objective of the research is to document the disabled users' perceptions of a park, its facilities, and its potential for providing more of the amenities and services that encourage social inclusion of handicapped visitors. It aims at identifying what factors are important, in terms of design and services, for people with special needs and facilitating their acceptance and inclusion. Bearing in mind this larger concept of widespread client groups and their respective needs, we concentrate on visible disabilities in our survey, such as people who are blind, depending on a wheelchair, or have disorders which obviously require more specific public attention from those responsible for open green space management.

Methods

To collect information on disabled users' needs and whether existing services in designed green spaces are adequate, we conducted a survey with face-to-face interviews on the Isle of Mainau (Nicolè and Seeland, 1999). This 45-ha park, located on Lake of Constance, contains beds of intensively managed flower arrangements, which are replanted several times a year with seasonal arrangements of flowering plants. It was designed in the middle of the 19th century and has kept its aristocratic character and historic atmosphere. There are hothouses with tropical plants and orchids and tropical butterflies flying free, an arboretum, an animal farm, some smaller patches of forest at the shores of the island with old trees that are managed extensively, and a so-called Garden For All, which was designed especially for the disabled (Chiari et al., 2000). The park is quite well known throughout Europe and has, on average, a million visitors annually (Verwaltung Insel Mainau, 1997).

The sample consisted of 142 people: 28.9% were officially recognised as being disabled, 18.3% were 'weak users' (i.e., people who have difficulty with everyday activities, although their official status is not handicapped, such as pensioners or those who are obese, have allergies, or accompany other people in wheelchairs or children in strollers), and 52.8% were neither and will henceforth be referred to as 'standard users'. The sample of interviewees was drawn randomly among visibly disabled and standard users. Women and elderly people were strongly represented among all groups of respondents.

People were interviewed at various locations inside the park, mostly at the end of their visit. The sample of disabled interviewees in this study was larger than the average number of disabled Mainau visitors which could be traced from the number of tickets that were sold at a special rate to visitors officially recognised as handicapped that day.

The disabilities of the interviewees were mostly physical; sensorially disabled individuals were only a small part of the sample. Mentally disabled were not interviewed, as it was considered too difficult to interview them. The questionnaires covered practical aspects of the visit (time spent in Mainau Park, time needed to travel to the island, number of previous visits, opinion towards various attractions and services, and so forth). Questions asked were mostly multiple choice, offering a range of pre-formulated answers. Open-ended questions were asked about the visitors' opinions about the attractions (the arboretum, the Garden For All, and the animal farm), with an interactive approach to the amenities provided.

The interviews focused on topics such as special services for the disabled people and gardening activities in mixed groups of disabled and non-disabled. Other issues were participation in guided tours; 'odour paths', in which people follow the smell of flowers and blossoms to experience the park through their senses; and a joint

travel programme, where disabled and non-disabled people travel together to the Isle of Mainau, either by public transport or private car.

Results and discussion

The results of this study intend to augment the body of empirical knowledge about park usage and enrich the discussion of the important issue of green space use, on which little data, as far our inquiries into the literature have shown, is available.

With regard to the gender distribution in the sample (Table 1), female respondents were similarly proportionately overrepresented among both standard users and total users; although there were considerably more women among the disabled and more male respondents among the weak users.

The forms of physical disability varied, i.e. of the 29% handicapped people who were interviewed, 5% did not want to reveal their type of disability to the interviewers.

Generally, disabled and weak users travelled further to get to the island and they stayed longer than standard users (Fig. 1). The attitude of disabled people during their visits was more passive than that of people in the other two categories. They were inclined to accept the amenities provided in the park less critically. They only proposed slight modifications for different parts of the island, have fewer complaints during their visit and made fewer suggestions regarding the ecological standards of the park. A striking result is that most of them indicated they would refuse services meant to improve their social inclusion as visitors to the isle. They seemed to feel stigmatised by being provided with services and an infrastructure that explicitly take their needs into account, thus exposing them to the public as handicapped more than necessary. They felt uncomfortable with their position being too prominent.

This assessment was completely different for the weak users, who favoured more active use of the park, meeting other people and doing things together. Weak users would welcome gardening or participating in a guided tour with standard users. In addition to their greater receptiveness towards social inclusion, weak users were found to be more ready to accept services to ease their handicap. The same amenity that disabled people may feel carries a stigma and makes them feel inferior, would likely be seen by the weak user as a positive acknowledgement of their special needs. Natural spaces, however, can also be social spaces, depending on the arrangement of the space and the concept behind the management of services that take social roles into account.

Disabled people, and to a certain extent weak users as well, referred to closed buildings more than standard users when asked what they appreciated most during their park visit. A hothouse with free roaming butterflies was preferred by 14.6% of the disabled users as opposed to 13.3% of the standard users, and 17.1% of the disabled respondents like the tropical glasshouse compared with 5.3% of the standard respondents. At the same time, open spaces were less appreciated by the disabled than they are by standard users: trees and arboretum were appreciated 14.6% compared with 20.0%; lake and landscape 9.8% compared with 22.7%.

Many respondents considered some landscape elements to be ill fitting and not natural in the context of the island, such as the Garden For All, which was

Table 1. Respondents by gender

Gender	Total	Disabled	Weak users	Standard users
Female	83 (58.5%)	28 (68.3%)	12 (46.2%)	43 (57.3%)
Male	59 (41.5%)	13 (31.7%)	14 (53.8%)	32 (42.7%)
Total	142 (100%)	41 (100%)	26 (100%)	75 (100%)

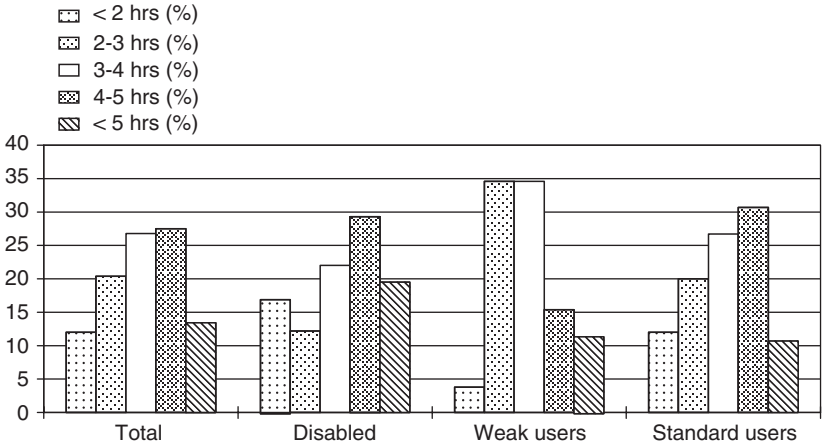

Fig. 1. Duration of stay on the island.

designed with disabled people in mind. It appears that specially designed amenities tended to have a non-unifying effect on various user groups. This suggests that services, infrastructures and design characteristics intended to address every visitor's needs must be distributed throughout a green space without overtly favouring any particular group of visitors. The exclusive appropriation of a particular green space is reflected in the behaviour of its visitors, the frequency of their visits to it, and their satisfaction with the amenity and the value it provides or symbolises.

How physically accessible green space is, plays an essential role in any process of social inclusion: people who cannot or are not able to enter a location cannot communicate with the people inside it, and therefore cannot benefit from its potential for inclusion. The word accessibility must be understood in a broader sense to mean moving independently in space, both physically and mentally and being able to interpret the inspirations coming from the environment and one's fellow visitors in the same space (Lundell, 2004). An essentially integrative approach to social inclusiveness facilitates physical access to public green space without creating any practical (staircases or paths too narrow for wheelchair users), psychological or symbolic barriers (reliance on other people's assistance, anxiety about stepping on the lawn). About 30% of disabled and weak users mentioned experiencing some kind of accessibility problem on the Isle of Mainau related to their respective handicap. It is quite plausible that there are problems of accessibility for disabled users in public space, but we did not find empirical data to be compared to ours. Neither did we investigate the proportion of disabled people who did never visit the island.

Certain services, such as having wheelchairs available or offering maps depicting where to find accessible paths, could help handicapped visitors to better use the isle's infrastructure; at the time the survey was made, however, these services were lacking. Quite often, visitors were not aware that there is a Garden For All, not even disabled people or those interviewed from inside this very garden. This may be considered something positive, as it shows how well such a thing can be incorporated into the overall concept of structured green space, although this garden was intended to stand out.

The same can be said about the Braille labels upon which the names of trees and plants in the Garden For All are indicated. If they were spread out to trees and plants throughout the entire park, not concentrated in an area as limited as the Garden For All, the effect could be integrating, not segregating, for blind visitors.

Disabilities are embedded in public life and space and require public acceptance. Ultimately, the attitudes of various social sectors towards disabilities matter, even when planning, design and public policy all support inclusion of disabilities of all types. Social and aesthetic values are sometimes challenged by disabilities, which are contradictory to and contrast with the image of a beautiful, easy-going modern lifestyle. The perfect-body-cult that is highlighted by the media is confronted when handicapped people enter the scene and demand equality and consideration of their special needs in practical matters, such as the design of parks. Against this backdrop, we would like to shed some light on how handicapped people and their special needs are perceived and judged by standard users.

Asked about their readiness to accept it should the entire Mainau park be designed according to the needs of disabled visitors, 37.4% of the respondents were against it, while 26.6% supported it. Among non-disabled and non-weak users, i.e., standard users 47.3% were against the proposal and 19% were in favour of it. With regard to the income of the respondents, it turned out that the low and the high income groups of all respondents were against a change to the present design, while people of middle income were more inclined to accept it (Table 2).

In terms of education level, change was opposed more strongly by respondents with high school and university level education; interviewees with a lower level of education were split almost equally for or against park transformation (Table 3).

Table 2. Willingness to adjust the entire park to the disabled people's needs separated by monthly income

Monthly income	Yes	No	Don't know	Total	No answer
< 750 Euro	9 (34.6%)	16 (61.5%)	1 (3.8%)	26 (100%)	—
750–1500 Euro	13 (37.1%)	19 (54.3%)	3 (8.6%)	35 (100%)	—
1500–2250 Euro	8 (42.1%)	8 (42.1%)	3 (15.8%)	19 (100%)	1
2250–3000 Euro	3 (60.0%)	2 (40.0%)	—	5 (100%)	—
3000–3750 Euro	4 (80.0%)	1 (20.0%)	—	5 (100%)	—
>3750 Euro	—	6 (100%)	—	6 (100%)	—
No response	23 (53.5%)	17 (39.5%)	3 (7.0%)	43 (100%)	2
Total	60 (42.3%)	69 (48.6%)	10 (7.0%)	139 (100%)	3

Among the handicapped the opinions for or against this transformation were distributed almost equally (Table 4).

Two-thirds of weak users welcomed the idea, which indicates that they felt such a transformation better recognises their status, while the disabled are more sceptical of it.

Successfully promoting and achieving social inclusion of disabled green space visitors still seems hinged on the general public being aware of these needs. As the results of Tables 2–4 indicate, large-scale modification of conventional structures is a topic about which there is strong ambivalence.

The results of this survey with its relatively small sample of respondents should not be overrated, nevertheless, it became obvious that disabled and weak users have their own views and outlook on what they need and want park and landscape architects to do for them. It is essential to develop concepts about the societal position of disabled people that reflect both their own points of views and those of the non-disabled population. Both access to green spaces and information about special services found there will be starting points for a public green space policy focusing on social inclusion.

Conclusion

A society that is fragmented into sub-units with little mutual acceptance is highly conflictive. This applies not only to those with disabilities, but also to any social or ethnic minority.

The wide range of handicaps and extensive variation in their reception by both disabled and non-disabled green space users calls for broad, well-balanced solutions. Such solutions should not focus on only one group of users, whether disabled or not, but rather should bear the needs of all users in mind. When the tendency exists for one group of users to be neglected in the design of public green space, complimentary services that take their special needs into account must come into focus.

The steady increase in old, weak and disabled users leaves no other alternative than to broaden the norms that favour standardised facilities designed for society's mainstream. In the future, the demand will be great for public green space which is close to an urban infrastructure with an emphasis on easy access and that has a design and services to accommodate a highly diversified and predominantly urbanised society.

The Mainau survey has shown that the Garden For All, although designed for the disabled, is well meant but to a certain extend misconceived by the planners as well as by the standard users. There is no consensus among all of the visitors that it extends over the entire island. Adoption of a more sensitive approach and revision of the dual concept of disabled/non-disabled is, therefore, reasonable.

Vehmas (2004) emphasises in his ethical analysis of disability that its character of a social concept that derives its practical forms and meanings from a certain social and cultural context. Altering the presently prevalent socio-cultural context of modern Central European societies, in which disability is assigned a

Table 3. Willingness to adjust the entire park to the disabled people's needs separated by education level

Education level	Yes	No	Don't know	Total	No answer
Elementary education	29 (50.9%)	25 (43.9%)	3 (5.3%)	57 (100%)	—
Apprenticeship	6 (75.0%)	1 (12.5%)	1 (12.5%)	8 (100%)	1
Secondary education	19 (35.8%)	30 (56.6%)	4 (7.5%)	53 (100%)	2
University	5 (29.4%)	10 (58.8%)	2 (11.8%)	17 (100%)	—
Other	—	2 (100%)	—	2 (100%)	—
Total	59 (43.1%)	68 (49.6%)	10 (7.3%)	137(100%)	3
No answer	1	1	—	2	—

Table 4. Willingness to modify the entire park to accommodate disabled people's needs

Disability	Yes	No	Don't know	No answer	Total
Hearing disability	1 (100%)	—	—	—	1
Wheel chair user	6 (27.3%)	10 (45.5%)	5 (22.7%)	1 (4.5%)	22
Visual disability	—	1 (25.0%)	2 (50.0%)	1 (25.0%)	4
Motion disability	4 (57.1%)	3 (42.9%)	—	—	7
No statement	4 (57.1%)	3 (42.9%)	—	—	7
Total	15 (36.6%)	17 (41.5%)	7 (17.1%)	2 (4.9%)	41

special role in everyday life, will have an impact on public open space and green space design. Desegregation of people with special needs will necessarily lead to a broader tolerance of norms and facilities that are designed for all. The growing concept of social inclusion will, thus, replace that of integration. Integration involves granting the disabled access to a world designed for the able-bodied. Inclusion, however, means that there are no standards to accept and nothing to be assimilated, but there is participation in the creation and planning of open, public space in which what physical or mental limitations or disabilities someone has is no longer relevant (Oliver, 1996).

The extensiveness and significance of the phenomenon of disability demand policies which acknowledge the concerns of the individual while seeking societal solutions to mitigate them. As the growing ratio of old and economically non-productive people rely on services and institutions predominantly provided and financed by the state, it makes more sense in the long term to change societal infrastructures so that there is greater social inclusion.

Social isolation, which often comes with old age and disability, has to be addressed in an economically viable way. The physically challenged should be encouraged to use adequately designed open and green space. It provides an opportunity to improve one's health and a space for socialising (Staats and Hartig, 2004). Society will have to start thinking about new approaches to social inclusion, ones which weren't necessary in the past, but upon which the wealth and standard of living of societies in the future may depend.

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