

Tools for Mapping Social Values and Meanings of Urban Woodlands and Other Open Space

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Abstract

New tools are needed to analyse the social values and meanings of urban woodlands, and bring them into decision-making processes regarding land-use and green-space planning. This paper explores a new systematic approach to collect and identify the values residents attach to green areas. In two mail surveys in Helsinki and Espoo, Finland, residents were asked to identify areas that had specific positive qualities, such as beautiful scenery and forest feeling, as well as to locate areas with negative features. A map of the study area displaying all the different green areas was attached to the survey. The results were analysed by using SPSS and ArcView software. The results highlight the most valued sites and also problem areas within the study area. The most important features attached to favourite places were tranquillity, feeling of being in a forest and naturalness. The method used is linked with GIS and therefore provides an easy way to present experienced values of green areas visibly on a map. The results suggest that the method is communicative and relatively easy to use in collaborative green-area planning as well as in land-use planning.

Keywords: Green-area planning; social values; residential information; urban woodlands

1. Introduction

The different social meanings, uses and values of woodlands and other open space should be brought into various decision-making processes to develop attractive and well-serving green areas for local residents. In city planning, nature is often a weak interest that is easily put aside by competing, often economic, interests. Ecological or other environmental information alone is not adequate to justify the preservation of nature areas in a city. Today, in Finland, the problems related to compact city policies exist because of continuing migration from the countryside and smaller towns to development centres. This exerts increased pressure on land use in urban areas and new construction is often allocated on existing green areas.

The quantity and quality of green areas determines their benefits. Quantitative information on green areas, ie amount and type of areas, is nowadays relatively well available. This kind of information includes green area classifications according to their size and management intensity, quality of flora and fauna, as well as forest stand inventories. In contrast, information on the social values of urban green areas is often scarce in urban land-use and green-area planning. The residents evaluate the actual quality and functionality of green areas according to their personal experiences. For this reason, subjective information, ie how citizens experience the green areas, is needed in various planning and decision-making processes.

For residents, personal meanings are the most important characteristics of a place. Personal experiences can be based on aesthetic, visual, social and cultural characteristics, values and meanings. Lynch (1994) distinguishes many features in creating the perception of city image: harmony, legibility, unity, clarity, understandability and meaningfulness. Nature, openness of

spaces and historical continuity are also important for perception and experiences of a housing environment (Nasar, 1998).

In Finland, as in Sweden and Norway, cities have typically been built 'into' the surrounding forest. This means that a large part of green space is established by preserving existing forest vegetation. On the one hand, people have relatively close bonds with nature and residents are used to seeing and experiencing fairly large forest areas even in urban areas (Tyrväinen, 1999; Pouta and Sievänen, 2001). On the other hand, large forests are increasingly a scarce resource in the Helsinki Metropolitan Area due to high demand for land for housing and other uses (Helsinki General Plan, 2003).

The social values of green areas are recognized by the local residents. They indicate what kind of local environments are stimulating, restorative, inspiring and attractive in everyday life. Residents' experiences and knowledge can be gathered through interviews and questionnaires. Mapping the social values of green areas reveals what kind of values a particular green area possesses and where these areas are situated in relation to the users. The method has originally been introduced in Stockholm, Sweden as a part of urban land-use planning (Upplelsevärden, 2001; Ståhle and Sandberg, 2002). The theoretical background of the method is based on environmental psychology and research related to studying park characteristics (Kaplan and Kaplan, 1989; Grahn, 1991).

In this research, a systematic approach to collect and identify the values residents attach to green areas was taken in two cities in Finland. The studies provided information for collaborative green-area planning conducted by the local authorities. The broader aim of the research was to bring information on residents' experiences and values to the decision makers and planners in a suitable form. The goal was to construct a simple and effective tool for gathering local information associated with green areas for various decision-making processes. The studies were financed by the European Union's 5th Framework Programme (NeighbourWoods –project QLK5-CT-200165) and the Ministry of the Environment.

2. Data and Methods

Residents' opinions on green area values and functions were gathered in two mail surveys in Helsinki and Espoo, Finland. The case study area in East-Helsinki consisted of two suburbs and two small-house areas. The study area in Espoo consisted of two separate areas, Espoo Centre and Kauklahti. There are approximately 20,000 residents living in both of the study areas. Green space in the study areas was typical for suburbs in the Helsinki Metropolitan Area: young forests, former agricultural lands and small green belts in the middle of housing areas.

A postal questionnaire was sent in Helsinki to 1,000 and in Espoo to 1,200 randomly-chosen residents between 15 and 75 years of age. The sample was drawn from the database of the Finnish Population Register Centre. The questionnaire was translated into Swedish for Swedish-speaking residents in the study area. The response rate was 42 per cent in Helsinki and 30 per cent in Espoo.

In the questionnaire, respondents were asked to indicate areas on an attached map having the following positive values: beautiful landscape, valuable nature site, forest feeling, space and freedom, attractive park, peace and quiet, possibilities for activities, and history and culture. They were also asked to identify areas with negative values: unpleasantness, scariness and noisiness. In the questionnaire there was a drawn picture symbolising each of the specific

value concepts. For the first time, the experienced values of green areas were asked based on a given value list. The respondents were also asked to indicate if they felt that value did not exist in the area, and could also add their own value to an empty field in the questionnaire. A map displaying all the green space within the case study area was attached to the survey. The results were analysed by using SPSS and ArcView software.

3. Results

In general, green space is very important to residents. In Helsinki, over 80 per cent thought that green areas have a very important role in contributing to the quality of the living environment and 17 per cent thought they have a relatively important role. Green areas meant on average more to newcomers and to families with small children. In both cities, residents appreciated relatively loosely built and green city structures in suburbs, and infill in the existing housing areas is strongly disapproved of.

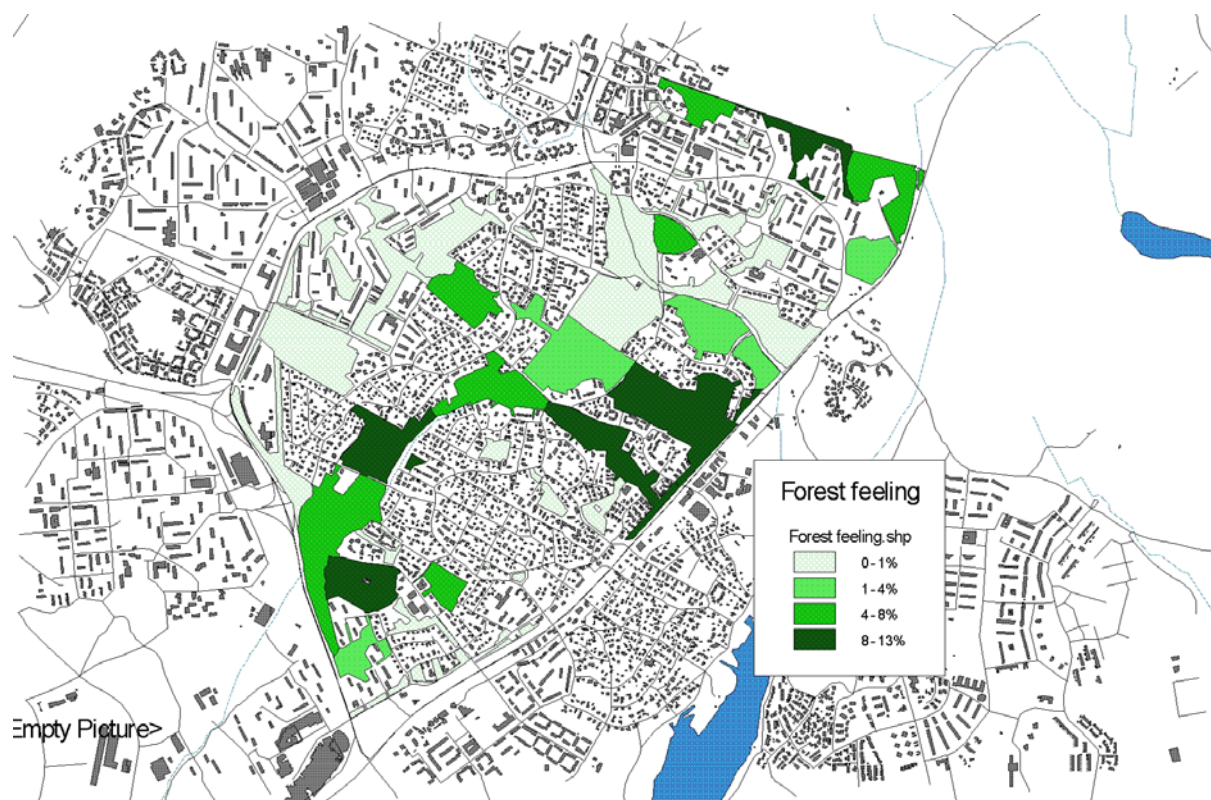


Figure 1. Example of forest feeling experienced in the area. 70 per cent of respondents had experienced forest feeling in the area, and 20 per cent did not sense it

In general, respondents understood the questions and identified green area qualities on a map well. Green areas experienced negatively were mentioned less often than positive values. In Helsinki, the most frequently mentioned positive values were 'possibilities for activities' and 'beautiful landscape'. Places for 'freedom and space', 'forest feeling' as well as 'peace and quiet' were also indicated fairly frequently (see Figure 1). The least mentioned characteristics of areas were 'values of history and culture' and 'attractive park'. In Espoo, the most important values for residents were beautiful landscape, forest feeling and peacefulness.

A synthesis map revealing the highlights of the area is based on the most highly scored areas. These are suggested to be the most valuable green places within the study area. In Helsinki, the most valued green places are large, natural green areas with open landscapes and diverse forest (see Figure 2). The networks and connections between the areas are probably a key to this, although the whole environment and neighbouring land-use types influence the general appreciation of these areas. In contrast, small forest patches within the housing areas had lost their 'forest feeling'.

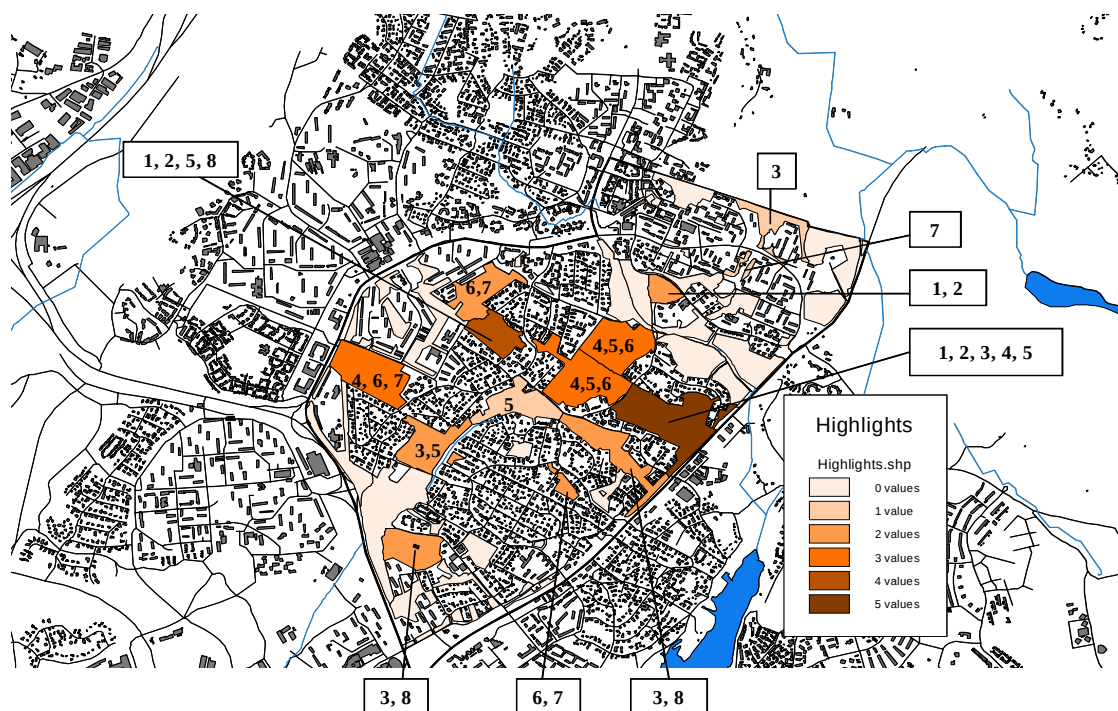


Figure 2. A synthesis map of the areas with highest scores in different social value classes. Explanation of numbers: 1 = beautiful landscape, 2 = valuable nature site, 3 = forest feeling, 4 = space and freedom, 5 = peace and quiet, 6 = attractive park, 7 = possibilities for activities, 8 = history and culture.

In Helsinki, a relatively low share of residents, 42 per cent, had a favourite place within the study area. The most popular places were relatively large with natural features, diverse characteristics and had a strong sense of place. Very often, favourite areas had strong characteristics and sense of place as a landmark (eg high open bedrock). Favourite areas were not necessarily the most used areas. One reason for this may be that high landmarks with steep slopes are not easily accessible. They are still an important part of the scenery and place identity of the area however.

4. Discussion

There is a lack of scientific information concerning the social values and meanings of green areas to urban residents. This information should be available and in usable form for land-use and green-area planning (Ståhle and Sandberg, 2002). It is unclear, for example, how much and what kind of green space should be provided for the residents in their home environment.

The social values of open space are based on experiences of residents who often have used their neighbourhood woodlands and other green areas for many years. Values and qualities of green areas, however, are to a certain extent independent to the green space and land-use type. The interpretation of areas depends on environmental concepts and personal preferences as well as a person's way of life. Small woodland can be a forest to one person, but someone else might feel that real forests cannot be found in a city. Moreover, an open space can be accessible or exclusive in different ways to different social groups.

The social value mapping provides an opportunity to bring residents' values to the decision-making process in a systematic way. Social information in map form provides opportunities for multiple analyses and comparisons with other inventories and expert assessments. The maps indicate where the most high-quality and socially and culturally sustainable green area networks are situated. It can also give an idea of the residents' values of city image and place identities. The results have been used and assessed in the collaborative green-area planning by the Helsinki and Espoo Green Area Divisions. The evaluation of the method by administrators, planners and residents has been positive and has influenced the routine green-area planning methods in both cities.

The main strength of the method is that social (aesthetic, cultural, health) values of green areas are acknowledged and collected in a systematic way for a planning process. The results show what qualities should be saved and what could be lost in condensing city structure. It also shows what kind of values are currently missing in green areas. Moreover, the method may decrease conflicts related to land use if the local information is used as one of the criteria in decision making regarding land use. The method is linked with GIS and therefore can be easily integrated in current municipal planning systems.

For green-area planning, the maps provide new perspectives from the residents' point of view: What is unpleasant in this area? Why is the forest feeling lacking from this woodland? Could a network be clarified with a different spatial structure? Where are peaceful areas located and where are they lacking? What do forest feeling, spaciousness, peacefulness mean to people?

The use of questionnaires may, however, increase costs related to current planning. Moreover, in many countries people may be passive with regard to answering questionnaires. In particular, young people are difficult to reach via mail surveys and therefore other channels to reach residents, such as the Internet, should be considered. The design of a good questionnaire also requires specific expertise, because each area has its local features that should be taken into account in the study design.

Green area values and meaning change over time as urban cultures, leisure time and environmental knowledge change, and therefore information related to residential attitudes, values and activities should be updated regularly. The results of this research emphasize opinions and values of middle-aged and elderly people, who are usually active in answering the surveys. One of the future challenges is to develop methods to study different age groups' (young, old) valuations more effectively and to better understand how different phases of life influence green area valuations and relationships.

Key Concluding Points

- Experienced qualities of green areas are systematically brought into decision-making processes.
- The method used is linked with GIS and provides an easy way to present experienced values of green areas visibly on a map, thus enabling inclusion of these values in the planning and management process.
- In planning, social aspects are raised to a level parallel with, eg ecological and technical aspects.
- The method facilitates communication of green area values, and allows silent groups to express their opinions.
- The results show the highlights of green areas and areas that should be preserved from other land-uses.
- Social value mapping can be used as a monitoring tool.
- Maps emphasize recreational use of large green areas and may not adequately distinguish the importance of small green areas.

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