RECREATIONAL USE OF SUBURBAN AREAS – MANAGEMENT ASPECTS IN A CASE STUDY OF GÖTTINGEN (GERMANY)

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There were examined recreational and landscape management aspects of suburban areas in the study. As an example it was analyzed the suburban area of Göttingen called Kerstlingeröder Feld (Lower Saxony, Germany) with the goal to emphasize the necessity of protecting its landscape values, namely environmental, cultural and visual ones.

The aim of the research was to define the main directions of recreational space development and to propose new criteria for the method of systematic landscape evaluation by analyzing the current situation of the suburban area Kerstlingeröder Feld.

Within this context theoretical, empirical and expert-oriented methods were used to define unique areas and objects of recreational use and aesthetically important visual landscape elements. To analyze the town dwellers’ needs, a quantitative interview was made by choosing unique visual landscape elements of the research area – like dominants, open views, accents, small visual points and visual axis. The most preferred values were dominant elements and the open spaces.

Our results show that unique natural, cultural and visual landscape values of suburban areas need to be protected by using a sustainable, soft form of recreational land use. Above all empirical data on landscape preferences are essential to evaluate the scenic quality of the landscape and to analyze the town dwellers’ recreational needs and their willingness to preserve landscape values.

Key words: sub-urban areas, recreation, landscape values, management.
JEL codes: Q010, Q560, L830, O220, R000.

Introduction

The landscape of suburban zones is a subject of severe and continuous transformations and functional changes in a great number of European agglomerations (Szucs, 2011). Every suburban area is individual in character, which results primarily from both the location and the extent of a given town, the industrialisation processes as well as economic and social significance.

A suburban area, depending on its predominant character – either urban or, on the contrary, rural – determines the development of various functions. It sometimes happens that these intertwine and harmonize with each other, thus creating a particular landscape. The most common functions are as follows: residential (the so-called dormitory towns), industrial, retail (shopping centres, services) and recreational (diverse forms of tourism and recreation). According to G. Stauskis (2010) development of sustainable recreation is an important tool able to bring more access to public landscapes in towns and make them more functional to the city residents. The development of various forms of recreation is based, on one hand, on the sustainability of the land use as well as adaptation to the town-dwellers’ needs, and on the other hand on the protection of natural and cultural values. Within this context the local recreation
area of the town of Göttingen (Lower Saxony, Germany), known as the *Kerstlingeröder Feld*, is being analysed.

**The aim of the research** was to analyze the current situation of the suburban area Kerstlingeröder Feld, to define the main directions of recreational space development and to propose new criteria for the method of systematic landscape evaluation by involving expert-oriented methods and empirical analyses.

For this issue, landscape perception theories (Bürger-Arndt, 2006; Bourassa, 1991) as well as habitat theories (Orians, 1980) were used as a basis of the study.

It was important to identify landscape values that have an influence on the recreational and protectional use of the analyzed area. As a next step it was important to involve the visitors’ opinion to analyze landscape preferences. It seems to be helpful by proposing recreational development directions.

**Methods of the research**

The source research was based on monographic (Deppe, 1956; Lücke, 1927; Meineke, 1993; Prietzel, 1990), cartographic (City ..., 1999), photographic as well as actual analysis, unique areas and objects for recreational use and aesthetically important visual landscape elements were defined. As follows, a quantitative and qualitative interview was developed and conducted with visitors of the Kerstlingeröder Feld, such as walkers, joggers, cyclists, horse-riders, etc. The interviewees were chosen randomly. Landscape preferences were evaluated by asking about recreational activities and preferences of different landscape elements by ranking specific parts of the area (Fig. 3).

The interview was developed with the theoretical background of R. Bürger-Arndt (2006) including a cognitive based theory of landscape aesthetics. The question about landscape preferences of open/small scale areas (Fig. 2) was formulated by using the so called Savannah-theory of G. Orians (1980) that describes biological laws of landscape preferences (Bourassa, 1991).

**Results of research**

*Kerstlingeröder Feld* (202 ha) is situated in the forest area, south-eastern part of Göttingen within the protected landscape of the Weser-Leine-Bergland in south Lower Saxony. It is part of the conservation area of Göttingen Forest, shaped by Middle Triassic limestone and represents a relict of a cultural landscape whose land use history refers to the 14th century.

In 1990 it was nominated as a flora-fauna habitat conservation area (Niedersachsen Nr. 138) which was accepted by the European Commission in 2004 (EU Nr. DE 4325-301). Since 2001 it is managed by the Forestry District of Göttingen. Nature conservational strategies and a management concept for the area were arranged by BUND (Friends of the Earth Germany) and NABU (Nature and Biodiversity Union Germany). Today the area has conservational, recreational, silvicultural and educational functions and is partly used as an extensive grazing land. Due to its
The role of landscape values in sustainable tourism and recreation

In the age of rational use of landscape resources, based on sustainable development of rural areas and small towns, it is vitally important to identify new functions which would take account of specific natural, cultural, infrastructural, economic and social conditions existing in the regions formerly considered to be typically agricultural ones, in which it was just the agricultural production that was the leading factor (Jaszczak, 2011\textsuperscript{1}). The value of landscape varies depending on particular regional systems and especially historical forms. The potential of rural or suburban areas continues to be perceived differently than that of large agglomerations due to its dominant function such as agriculture and agricultural services. However, differences between the town and the country are gradually diminishing because of certain processes occurring globally, in different parts of the world (Jaszczak, 2011\textsuperscript{2}).

Sustainable tourism develops among types of actions important for the economic growth of many areas of Europe and contributes to the protection and improvement of environmental values. It is based on the attractiveness of the environment and landscape. It can develop and protect the agricultural, cultural and natural heredity of rural and suburban areas (Jaszczak, 2010).

Recreational function of the Kerstlingeröder Feld

Because of anthropogenic transformations the functions and the scenery of the landscape has changed over the centuries. At present, the use of the Kerstlingeröder Feld area is conditioned by the necessity to determine sustainable forms of availability of this place to the residents of Göttingen.

To introduce sustainable recreational land use forms, the most appropriate way to determine the further use thereof is by taking account of the principles of protecting biodiversity. Therefore, the preferred option is to ensure the following forms of recreation: leisure walking, cycling and horse-riding, as well as to introduce forms of environmental education that are likely to be successfully performed (educational activities for children, schools, students and the elderly).

According to the analysis of recreational activities located in Kerstlingeröder Feld, it is suggested to continue with the „soft forms” of recreational use. In terms of the future perspective it is necessary to formulate these kinds of events related to the landscape values. By defining and grouping characteristic landscape values of Kerstlingeröder Feld, it was possible to suggest potential recreational use forms (Tab. 1).
Table 1. Characteristic landscape values of Kerstlingeröder Feld and proposals for future recreational use

<table>
<thead>
<tr>
<th>Landscape values</th>
<th>Proposals for recreational use-forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural values (ruins, old roads, technical objects)</td>
<td>Organization of meetings, festivals and theatre on the fresh air, creation of places for leisure activities-small architectural elements like benches</td>
</tr>
<tr>
<td>Natural and agricultural landscape values</td>
<td>Recreation forms in the forest area: walking, cycling, mushrooming; Recreation forms in orchards and meadows area: organization of picnic places, fruit picking Bird-watching events</td>
</tr>
<tr>
<td>Visual (aesthetic) values: panorama, dominants, subdominants, accents, visual axis visual points</td>
<td>Creation of view platforms and points in chosen places with small architecture. Star-gazing and astrology events</td>
</tr>
<tr>
<td>Planned greenery areas (road alley, group of trees and shrubs)</td>
<td>Walking, cycling, organization of „Tree festivals” by planting trees; Environmental education activities (mainly organized by schools)</td>
</tr>
</tbody>
</table>

**Interview Results**

Landscape perception of locals and guests were analyzed by carrying out standardized interviews with visitors of the Kerstlingeröder Feld. A total number of 113 persons were asked. The interviews showed that 70 percent of the interviewees came from the city area of Göttingen and 19,5% of them were visiting the Kerstlingeröder Feld for the first time. Mainly young people between the age of 18 and 38 years old (mostly bikers and joggers) visited the field. The second large groups were middle aged people (Fig. 1).

![Figure 1. Age groups visiting Kerstlingeröder Feld](image-url)
The results of the analysis and the interview showed that the most important areas and objects for recreational use are as follow (Fig. 2.):

- open area;
- forest outskirts and small shrubs and road alleys;
- forest and fauna/flora originality;
- small-scale confined area.

According to the questions about the preference of the visual elements the visitors have chosen as follow:

- dominants (solitaire trees and deadwood);
- open views (panorama, meadow);
- accents and small visual points (deciduous forest, single shrubbery, ruin);
- visual axis (orchard, road).

From the perspective of current utility of Kerstlingeröder Feld, the most important for Göttingen inhabitants was to preserve and continue its recreational function in a sustainable way and to protect the natural values of the landscape. 70 percent of the respondents preferred the recreational functions. Among them different kind of activities were preferred like walking, hiking, jogging, cycling or just relaxing and enjoying nature (Fig. 3).
Some of the interviewees mentioned that they miss open spaces in the suburban region of Göttingen focused on nature resources. For a sustainable development of suburban areas it is important to leave spaces which are still close to nature areas or to their borders. In this case, Kerstlingeröder Feld as a unique open space in the Forest of Göttingen is the best example for showing potentials of landscapes with their cultural and natural values as an important factor for sustainable recreational land use-forms.

**Conclusion**

1. The purpose of active protection is to preserve the beauty and natural properties of nature of the given area.

2. Characteristic landscape values: cultural, natural and visual ones – were identified and brought in relation to potential recreational forms of land use. The analysis showed that there are suburban areas without investment pressure and with great potential for sustainable recreational forms. However, for the future perspective it is necessary to formulate activities which are related to the analyzed landscape values.

3. It is necessary to protect the uniqueness and diversity of the landscape in suburban areas but also to initiate new functions which are close to „soft” recreation, education and extensive agriculture use.

4. Within this context, the suburban area Kerstlingeröder Feld with its specific landscape values has to be used in a sustainable way, for example, as a recreational space with different forms of environmental education activities.

5. In the context of systematic landscape evaluation, the analysis showed that
empirical data on landscape preferences is an essential criterion to evaluate the scenic quality of the landscape. For this purpose, qualitative and quantitative interviews are important to analyze the visitors ‘needs.

6. Participation processes in landscape planning are essential by systematic landscape evaluations.

7. The most important for the interviewed inhabitants of Göttingen was to preserve the recreational function for sustainable use and to protect the natural and cultural values of the landscape. This showed also the willingness of the town dwellers to preserve landscape values, which is an essential issue for a sustainable future planning of the landscape.

**Literature**

PRIEMIESČIO TERITORIJŲ NAUDOJIMAS REKREACIJAI: VADYBINIAI ASPEKTAI GETINGENO (VOKIETIJA) ATVEJO STUDIJOJE

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Santrauka

Tyrime buvo nagrinėjami vadybiniai kraštovaizdžio valdymo organizavimo ir tvarkymo aspektai, siekiant sukurti rekreacines erdves priemiesčio teritorijose. Tyrimo objektas – Getingeno priemiesčio (Vokietija), vadinamo Kerstlingeroder Feld (Žemutinė Saksonija, Vokietija), rekreacinės teritorijos. Tyrimo tikslas – nustatyti pagrindines rekreacinių teritorijų plėtros kryptis ir pasiūlyti naujus kriterijus sisteminiam kraštovaizdžio vertinimo metodui.


Tyrimo rezultatai rodo, kad unikalių gamtos, kultūros ir vaizdo kraštovaizdžio vertybės priemiesčio teritorijose turi būti apsaugotos naudojant tvarią, bet lanksčią (prisitaikymas pagal aplinkybės) rekreacinės žemės paskirties naudojimo formą.

Apibendrinant tyrimo rezultatus būtina pabrėžti, kad kraštovaizdžio vertės išsaugojimas yra nuolatinis procesas. Būtina nuolat tirti miesto gyventojų rekreacinius poreikius ir jų pasiryžimą išsaugoti kraštovaizdžio vertybes.

Raktiniai žodžiai: priemiesčio teritorijos, poilsis, kraštovaizdžio vertinimas, valdymas.
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