Urban Forestry & Urban Greening 10 (2011) 335–342

Contents lists available at SciVerse ScienceDirect

Urban Forestry & Urban Greening

journal homepage: www.elsevier.de/ufug

A comparative perspective of urban forestry in Belgrade, Serbia and Freiburg, Germany

Ivana Gudurić[a,*], Jelena Tomićević[b], Cecil C. Konijnendijk[c]

[a] Faculty of Forestry, Department of Landscape Architecture and Horticulture, Kneza Višeslava str 1, University of Belgrade, Belgrade, Serbia
[b] Faculty of Forestry, Department of Landscape Architecture and Horticulture, Kneza Višeslava str 1, University of Belgrade, Belgrade, Serbia
[c] Danish Centre for Forest, Landscape and Planning, University of Copenhagen, Rolighedsvej 23, 1958 Frederiksberg, Denmark

ARTICLE INFO

Keywords:
Comparative research
Natural resource management
Urban development
Urban forest policy
Urban woodland

ABSTRACT

As in many countries after periods of political unrest and with unstable economical conditions, urban woodland and green spaces are becoming prioritized in the last decade in Serbia. This stands in stark contrast to countries like Germany, where there is a long history of integrating urban green space in urban development.

Looking through the lens of urban forestry, this paper compares the status, planning and management of urban woodland in the Serbian capital of Belgrade with the German city of Freiburg. Holding up the difficult situation in Belgrade to the good-practice case of Freiburg allows the identification of status, problems and potentials for development. Both cases of urban forestry were analysed by a series of methods, including expert interviews, on-site observations, and analysis of documents, literature and maps.

Results indicate that in Belgrade institutions and policies of urban woodland management have being much less developed than in Freiburg. Furthermore, Belgrade faces various problems that need to be solved, e.g. in terms of developing the policy framework for urban forestry and the need to promote political awareness about its importance. Important lessons can be learnt from the experiences of cities like Freiburg.

Introduction

Introducing urban forestry

Urban woodland, other green spaces and urban trees are primary means of keeping city dwellers in touch with nature and natural processes. Growing conditions in urban areas are generally far from optimal for trees and other vegetation (e.g. Konijnendijk et al., 2006).

People's demands towards forests and trees have been changing over time (e.g. Bengston, 1994) and presently woodland areas in and near cities have to meet numerous demands. Today, the social, ecological and aesthetic values of forests in cities are often given more consideration than production of timber (Krott, 1998; Konijnendijk et al., 2005).

The concept of 'urban forestry' was developed in North America during the 1960s (Johnston, 1996), with a first comprehensive definition developed by Canadian professor Erik Jorgensen as "*a specialized branch of forestry and has as its objectives the cultivation and management of trees for their present and potential contribution to the physiological, sociological and economic wellbeing of urban society. These contributions include the over-all amelioration effect of trees on their environment, as well as their recreational and general amenity value*" (Konijnendijk et al., 2006, p. 95). In spite of initial interest, it took longer for urban forestry to take hold in Europe.

In a European context, the following main characteristics of urban forestry were defined:

- It is integrative, incorporating different elements of urban green structures into a whole (the 'urban forest');
- It is strategic, aimed at developing longer-term policies and plans for urban tree resources, connecting to different sectors, agendas and programs;
- It is aimed at delivering multiple benefits, stressing the economic, environmental and socio-cultural goods and services urban forests can provide;
- It is a multidisciplinary concept aiming to become interdisciplinary, involving experts from natural as well as social sciences;
- It is participatory, targeted at developing partnerships between all stakeholders. (Konijnendijk et al., 2005, p. 15).

* Corresponding author. Tel.: +381 64 2299801.
E-mail addresses: ivanag0906@hotmail.com (I. Gudurić), tomicevicj@yahoo.com (J. Tomićević), cck@life.ku.dk (C.C. Konijnendijk).

1618-8667/$ – see front matter © 2011 Elsevier GmbH. All rights reserved.
doi:10.1016/j.ufug.2011.08.002

In recent years, FAO has adopted the term 'Urban and Peri-Urban Forestry' (UPF), which includes urban and peri-urban forest and other wooded land, as well as trees in parks, gardens, tree-lined streets and squares, undeveloped areas, transport and river corridors (Sangster et al., 2011).

Urban forestry requires well-formulated policy, a strong organisation and a stable budget, otherwise 'green' issues tend to feature weak on the political agenda (Ottitsch and Krott, 2005). Policy-making on urban forests involves the decision-making process for these areas in terms of formulation, adoption and implementation of objectives, instruments and time paths (Konijnendijk, 1998). Funding for urban forestry has traditionally been public and municipal, but funding has diversified over time (Ottitsch and Krott, 2005).

The urban forestry policy system constantly has to handle different problems and conflicts. Conflicts related to forests are centred on conflicting interests (Ottitsch and Krott, 2005) and values (Gritten et al., 2009). Urban forestry conflicts can relate to for example urbanisation and encroachment, biotic and abiotic threats to the resource, as well as diverging societal demands and uses. This diversity of issues related to urban forests as well as competing land use demands in the urban context frame the issue of urban forest governance (Lawrence et al., 2011, p. 1). "Urban forest governance (. . .) refers to the structures, rules, partnerships and processes that shape decisions about urban and peri-urban trees and woodlands".

Urban forestry in Europe: different stages of development

In a first comparative study of urban forestry in selected European cities, with focus on the woodland part of the urban forest resource, Konijnendijk (1997, 2001) noted large differences in the level of recognition, policy and management of urban forests. In countries such as Germany, the planning and management of urban woodland and other green spaces has had a long tradition. The German concept of 'Stadtwald' embodies a rich heritage of cities conserving, developing and using local woodland resources. Among the German cities with this type of experience, Freiburg can be mentioned as a good example, with 40% of its municipal area still covered by forests. These forest areas as well as other green elements of the wider 'urban forest' are seen as important contributors to sustainable urban development. In countries like Serbia, on the other hand, urban forestry as a distinct approach within forestry or natural resource management does not exist (Savić, 2006). During recent years, however, there has been scientific interest for the urban forestry concept. Yet, related terms such as 'municipal forest', 'town forest', 'sub-urban forest' are more familiar both to experts and the general public. In Serbia, problems related to ecology and sustainable development has been neglected when compared with pressing political and economic problems (such as crisis during war in Bosnia in 90s, or during and after major political changes in year 2000). This has been the root cause of many current problems affecting urban woodland planning and management. Woodland areas in or near cities have sometimes been disregarded in legislation and planning, while competences and interests have diverged (Konijnendijk et al., 2005). They have also been the subject of illegal construction. Awareness among decision makers and the public about these woodlands and their specific conditions has been limited (Savić, 2006; Maričić, 2007). These factors add to the fact that in Serbia, like elsewhere, policy-makers are facing problems in developing sustainable urban development strategies.

The aim of this paper is to analyse urban forestry in the Serbian city of Belgrade, by comparing it with a city with a successful and long-standing urban forestry programme (Konijnendijk, 2003), namely Freiburg in German. Critical framing of Belgrade in this context should assist in offering directions for urban forestry development in Serbia and perhaps also other countries of the region.

Methods

A comparative case study approach was chosen for this research, in order to hold up urban forestry in the city of Belgrade against Freiburg as an example of good practice in policy and management. Focus in the case studies has been on the understanding of urban forestry terms, policies, actors and management practices.

A qualitative approach to the study was chosen, with triangulation of different data collection methods. Understanding a situation in its entirety and characterization by a number of specific principles like subject orientation, adequacy of theories and methods, reflexivity of the researcher and research are characteristics of qualitative research (Tomićević, 2005). Methods included semi-structured in-depth expert interviews, a method which seeks responses from a number of defined questions while allowing the respondent to determine the nature of some information given (Wheater and Cook, 2000). These in-depth expert interviews were used in order to collect a great deal of 'rich' information from relatively few people (Veal, 1992), with saturation of new findings occurring following the gradual adding of interviewees.

The expert interviews were held during autumn 2007 in Freiburg (5 interviews) and spring 2008 in Belgrade (7 interviews), with all interviews being conducted in the local language. The interviewed experts had different backgrounds and held positions relevant to urban forestry (Table 1). They included policy-makers, planners, managers, and university professors. Due to time constraints and availability issues, the number and variety of interviewees in Freiburg was smaller than in Belgrade. Interviews were formulated based on previous research done in this field and primarily from the work of Konijnendijk (2001). Topics discussed during the interviews were: basic information about urban woodland resources in cities, information about urban woodland policy-making, about actors in urban forestry, type of management, and main problems and conflicts associated with urban woodland.

Apart from the interviews, primary data were also derived from field observations in selected urban forests in both cities. Secondary data included relevant documentation, such as reports, books, and journal articles, including the results from an earlier (and similar) European study that included Freiburg as one of 16 cases (Konijnendijk, 1997), and current city plans and management plans in Serbia (e.g. GUP, 2003; Zelena regulativa, 2004). Additionally, spatial plans and maps of these two cities and other policy documents were analysed and compared.

Study areas

Freiburg

Freiburg is situated in the south-west part of the Germany, between two entirely different geological and climatic areas, the western edge of the southern Black Forest and Upper Rhine valley. Freiburg is one of 112 urban districts in Germany, and it is divided in 42 districts (FRITZ, 2010).

Freiburg extends over an area of 153.07 km^2. It has 212,924 inhabitants, among whom 30,000 are students. The population density is 1421 km^{-2}. The city of Freiburg is known as a "Green City" (Freiburg Green City, 2010) and this label represent a combination of many ideals which complement each other, such as sustainable urban development and environmental protection. These ideas provide a strong base for further city development, which is supported by the citizens (Freiburg Green City, 2010).