ELSEVIER

Landscape and Urban Planning 52 (2000) 89–100

LANDSCAPE AND URBAN PLANNING

www.elsevier.com/locate/landurbplan

Adapting forestry to urban demands — role of communication in urban forestry in Europe

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Abstract

Similar to other parts of the world, European society is becoming increasingly urban, both in a physical as in an economic and socio-cultural sense. As a result, the relationships between society and nature, including forests, are changing, and forestry as structural intervention in forest ecosystems has had to adapt itself to changing societal pressures and demands. The planning and managing of woodlands in and near urban areas has been the most directly affected by the urbanisation process. Many European countries have a long tradition of 'town forestry', serving as basis for current developments in urban forestry, i.e. the planning and management of all forest and tree resources in and near urban areas for the benefit of local society. Through the adaptation to the specific demands of local urban societies, a type of forestry has emerged which is structurally different from classic forestry. It focuses, for example, on the social and environmental values of urban woodlands rather than on wood production and emphasising the importance of communication — ranging from information to participation/power sharing — between stakeholders. This paper investigates ways to communicate urban forests and forestry to urban inhabitants and other stakeholders, based on results of a comparative study of main European cities. It explores the role which urban forestry has been playing in the development of forestry at large, especially with regards to better incorporating changing social values and interests.

Keywords: Urbanisation; Forests; Urban forestry; Communication; Europe

1. The urbanisation of society and its impact on forestry

The 20th century was the century of urbanisation. According to United Nations figures, only 14% of the world's human inhabitants lived in cities around 1900. As late as in 1960, still two-thirds of the people lived in rural areas. By the turn of the century, however, over half of the world's population lived in urban areas; two-thirds of all Europeans now reside in towns or cities (e.g., Girardet, 1992; EEA, 1995, 1998). The urbanisation process has had major physical-spatial implications, as large parts of the landscape became urban, for example through the expansion of agglomerations. Thomas (1999) described the phenomenon of urban sprawl in the USA. He mentioned that while the city of Atlanta doubled its population during the past decades, its urban area increased with 400%. Urban land use has gradually expanded through direct building activities, but also via the extension of railroads, motorways and communication infrastructures. Urban values and norms have become increasingly dominant. Even in the most rural areas of Europe, children dress up in LA-style street wear, support the Manchester United or Barcelona football teams, and watch MTV. Socio-cultural processes such as individualisation and

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0169-2046/00/$20.00
PII: S0169-2046(00)00125-0

the loss of traditional social ties and structures also have an urban origin (e.g., Zijderveld, 1983). In addition, city populations have been at the forefront of the process of democratisation and the challenging of government authority. In general, urban areas have been 'hot spots' for innovation (e.g., Burch and De Luca, 1984; Krott, 1998).

The urbanisation process has dramatically changed the relationship between human society and the natural environment. Most obviously, the natural environment has been (over)exploited to support economic growth. With the spatial expansion of urban agglomerations, the distance to 'outside' or rural life and nature increased for most urbanites, also because of a decrease in the amount of undeveloped, natural space inside cities. The relationship between people and nature has also been affected by changes in social values. Man's relationship to trees and forests, for example, has taken many different forms. Coder (1996) mentioned myriad traditional and cultural aspects associated with trees in different cultures and during different stages in societal development. The 'wild' forest that was both beloved, (as it acted as source of food and fuelwood, among other), and hated as a dark and dangerous place, gradually became more 'tamed' or domesticated (e.g., Wiersum, 1999). The profession of forestry developed as structural intervention in forest ecosystems aimed to optimise resource utilisation, mostly in terms of timber production, by society.

As a distancing from rural life and natural processes occurred, an adverse movement of re-appreciation and romanticising of nature developed, particularly in the European cities of the 18th century. This development was initiated by the nobility and bourgeoisie, which started to establish gardens and estates in and near cities. During the period of industrialisation, the modern concept of leisure time for all emerged (e.g., Myerscough, 1974), as industrialists and governments recognised the need for urban workers to 'recreate' themselves. Urban green areas, including forests, provided recreation settings nearby. When mobility increased through trains and other types of transportation, forest and nature areas more remote from the cities were also frequented. In general, the demand for social services of forests, which were mainly recreational in nature, grew. Although the sustainable production of timber was initiated earlier, the nature conservation movement across Europe originated in urban areas, starting at the end of the 19th century and driven mainly by the upper class. When generalising, it can be said that society at large started to ask for more emphasis on natural and environmental values, also with regards to forestry (e.g., Kennedy and Koch, 1991; Kennedy et al., 1998; Otto, 1998).

According to Paris (1972), these developments led to the 'citification' of the forest. Conflict situations between 'industrial' (or conventional) and 'societal' uses of forests have been occurring. These conflicts have resulted from the influential streams of ideas, values, perceptions, life styles, etc. from urban societies to the countryside, forest areas and other more or less natural areas. The forest has often become connected with the image of 'a modern wilderness', curing the physically and mentally exhausted — e.g. through information overload and stress — urban dweller. This urban dweller, however, has often lost touch with the (natural, rural) production cycle. Consequently, apart from having to deal with higher pressures on scarce forest resources due to increasing and changing social demands, professional forest managers are facing a society with less understanding for, among others, tree cutting, but still ready to challenge the foresters' professional authority. Forestry is seen as not sufficiently taking into account social and environmental values, or the interests of local dwellers (Schanz, 1996; Ronge, 1998; Wiersum, 1999). Professional foresters often feel that the public misunderstands them and their practices (e.g., Schanz, 1996). Moreover, they have become rather used to doing things their way, with the mandate of society, in remote areas. Kennedy and Koch (1991) mention that foresters historically have been trained to understand and respond to the social values communicated by the economic system, as the primary means of current generations expressing their forest values. This situation has changed. It may no longer be effective and efficient in meeting the demands, and consequently requires adaptations (Kennedy and Koch, 1991; Kennedy et al., 1998; Wiersum, 1999). As urban society has reached the perimeter of many forest and nature areas, natural resource professionals are increasingly asked to act as resource managers or as facilitators assisting community groups or private entities in implementing effective forest management. Kennedy and Thomas (1995) speak of contemporary natural

resources management as both social value management and social conflict management.

It is not strange, therefore, that the last decades of the past century saw the development of types of forestry which placed more emphasis on social values and social conflict resolution, and the involvement of various stakeholders in forest planning and management. Social forestry and community forestry, concepts with their roots in a developing country context, focus on local stakeholders and their values and interests (e.g., Raintree, 1991; Wiersum, 1999). The variety in wood- and non-wood products as well as environmental and cultural values and social services is taken into account. Moreover, social and community forestry professionals increasingly share their traditional domain with other actors, including other professionals as well as a wide range of stakeholders.

Apart from social and community forestry, which have predominantly been applied in a rural (development) context (e.g., Raintree, 1991; Wiersum, 1999), a type of forestry adapted to urban areas evolved. The woodlands in and close to urban areas were those first affected by the urbanisation process. As mentioned, the nature conservation movement originated in urban areas and often had urban woodlands, such as Fontainebleau near Paris and the Zonienwoud near Brussels, as its first focus (Konijnendijk, 1999). Since centuries, urban woodlands have been used and managed not only for timber production, but also as recreation environments for expanding urban populations. In this way, forestry in and near urban areas has been at the forefront of the changing relationship between human society and forest.

In this paper, forestry in and near urban areas is studied, starting from the assumption that adaptations made to better incorporate the specific demands of urban areas have been relevant for the development of forestry at large. Some of the ways of better communicating and integrating various social interests and values are discussed, based upon the results of a comparative study of woodland planning and management in selected European cities.

2. Materials and methods

The concept and practice of urban forestry has become established during recent decades. It involves a range of disciplines, including horticulture, landscape architecture, urban planning, landscape ecology, social sciences, and forestry. The concept was initially developed by North American forestry professionals and given its name during the second half of the 1960s (e.g., Jorgensen, 1970). The early involvement of foresters and in fact the very name urban forestry can be explained from the importance of forestry concepts and methods within the emerging field. The principle of sustainable production of goods and services can act as an example, while urban forestry aims at managing trees not as single isolated entities, but as part of an overall city green structure. Methods such as long-term planning, secure resource allocation and detailed surveys, inventories and work programmes also have a forestry background (Collins, 1997). Urban forestry is defined as 'the art, science and technology of managing trees and forest resources in and around urban community ecosystems for the physiological, sociological, economic and aesthetic benefits trees provide to society' (Helms, 1998). Thus urban forestry not only encompasses forests in and near urban areas, but other tree resources and associated vegetation, for instance in parks and along streets, as well as the vast tree resource in gardens and on other private land. Urban forestry has a strong 'social' focus, stressing the importance of involving local communities in planning and management. The concept of urban forestry has more recently become adapted in large parts of Europe (e.g., Forrest et al., 1999).

In the study 'Urban Forestry in Europe' (Konijnendijk, 1999), carried out between 1995 and 1999 by the European Forest Institute, a narrower concept of urban forestry was applied. The study focused on the conservation, management and development of woodlands (used here interchangeably with the term forests) rather than urban green spaces at large. The choice for this narrower perspective was based upon the strong tradition of town forestry in many European countries (see below), as well as on the objective to test the hypothesis that forestry in an urban area structurally differs from forestry at large, and thus requires adapted approaches and methods.

The research had major European cities as its main study objects. In a selection of 16 cities in nine countries across Europe (see Table 1), in-depth case studies of woodland planning and management were

Table 1
Examples of major urban forest conflict cases for selected European cities[a]

City	Examples of recent major urban forest conflict cases[b]
Helsinki, Finland	Nature conservation versus forest management (harvesting trees) in Keskuspuisto forest park in central Helsinki Nature conservation versus forest management (harvesting trees) in the nearby Nuuksio forest area
Joensuu, Finland	Protests by the public and interest groups against highway construction through an urban forest Protests against the construction of a sports hall in a forest near the centre
Greater Copenhagen, Denmark	Conflict over amount of 'dog forests' (where dogs can walk off their leash) in Copenhagen Forest District Conflict between intensive recreation and private forest owner wanting to limit recreational use of the forest area Establishment of the new West Forest or Vestskoven (forest west of Copenhagen) versus agricultural landowners in the area
Odense, Denmark	Afforestation versus agriculture in the surroundings of Odense Expansion of Odense zoo into inner-city green area and protests by interest groups
Amsterdam, Netherlands	Protests by interest groups and the public (as well as the forest service) against the establishment of a tennis complex in the Amsterdamse Bos Conflicts between the public and forest managers over forest management measures in the Amsterdamse Bos
Arnhem, Netherlands	Conflicts between different types of recreation Past conflicts between nature conservation and forest management (silvicultural measures)
Berlin, Germany	Highway establishment through the Tegel Forest Urban development and housing projects versus forest conservation Conflicts between tradition of overnight stays in tents in the forests and other uses of the forests
Freiburg, Germany	Establishment of highway B31 through the forest Mountain biking versus other types of recreation and use Conflicts regarding the intensive recreational use of the ecologically sensitive Schauinsland area
Vienna, Austria	Planned establishment of a hydroelectric plant in nature area Donau–Auen and subsequent occupation of the area by protestors Regeneration of oaks (cuttings) versus public opinion
Prague, Czech Republic	Protests of citizens and interest groups against cutting of trees Conflicts over the ownership of urban forests, involving state, municipal and private owners
Brno, Czech Republic	Conflicts between environmental movements and forestry Conflicts between legal hunters and poachers
Warsaw, Poland	Urban development (housing projects) threatening Las Kabaty forest Protests of citizens against cutting of trees Highway construction through Las Bielanski forest
Gdansk, Poland	Expansion of highway to the airport into the forest Illegal housing development into the urban forests versus forest conservation Local groups protesting against, e.g. cutting of trees
St Petersburg, Russia	Building of summer houses in nature protection area Lindulovskaja Roshcha Commercial development threatening urban forest and green areas
Rome, Italy	Public opinion versus forest and green management Abuse (e.g., crime, vandalism) versus legal use of urban green areas
Padua, Italy	Private land owners versus the establishment of new public green areas Urban, recreational use of the Colli Euganei Regional Park near Padua versus the activities of the area's original inhabitants

[a] For a more complete overview and references see Konijnendijk (1999).
[b] Information is mainly based upon focused interviews with local urban forestry policy-makers and managers, representatives of interest groups, and scientists and experts.

carried out, by applying qualitative elite interviewing, field visits, and analysis of relevant documents and publications. The qualitative, semi-structured interviews in every case involved main urban forestry actors, ranging from forest planners and managers to local scientists and representatives of interest groups. The cases were supported by an overall literature review on urban woodlands in Europe and by communication with a wide range of urban forestry professionals and scientists (Konijnendijk, 1997, 1999). Recently established European networks such as COST Action E12 'Urban Forests and Trees' (for researchers, established in 1997) and the IUFRO European Forum on Urban Forestry (for practitioners, founded in 1998) proved beneficial for this purpose (Krott and Nilsson, 1998; Forrest et al., 1999).

In the first stage of the study, a historical overview of urban woodland development in Europe was drawn up (Konijnendijk, 1997). In the second part, the state-of-the-art of urban woodland planning and management was described and analysed, while defining needs and developments in European urban forestry was the aim of the third and final research stage (Konijnendijk, 1999). Some of the study's results with regards to the 'social dimension' of urban forestry, looking at the development of communication tools, are presented and discussed in the next sections.

3. The development of urban forestry in Europe

3.1. Urban or town forestry tradition in Europe

When taking a narrower perspective, focusing on forestry as one of the disciplines and professions involved in it and woodland as one of the elements of the urban forest, history shows that urban forestry is not such a new concept. 'Town' or 'city forestry', in one way or another, has been a common phenomenon in Europe for quite some time. Terms such as the German 'Stadtwald' and the Dutch 'stadsbos' (i.e. 'city forest' or 'town forest') have existed much longer than the term urban forestry. As early as medieval times, some forests were already owned by cities that used them for different purposes (e.g., timber, food, grazing, savings for times of war, and so forth) and thus wanted to enforce some control over them. The Czech city of Brno, for example, bought its first communal forests in 1466 (Cerný, personal communication), while the Eilenriede forest near Hanover became city-owned in 1371 (Hennebo, 1979). The Danish municipality of Aarhus owned forests as early as 1395 (Madsen, 1995), while the Sihlwald is owned by the city of Zurich, Switzerland since 1524 (Hosmer, 1988).

While food and particularly timber were the main products of these town forests during the earlier stages of history, their role as recreation environments developed as early as the 16th century, while their role as hunting domains — with a clear recreation link — dates back even further. Over the ages, society gained greater access to forests and other urban green spaces for recreation purposes, with a culmination during the industrialisation (Lawrence, 1993; Konijnendijk, 1997). Consequently, Ronge (1998) mentions how town foresters had to take local social values into account, while the scarcity of the urban forest resource combined with a high and diverse social demand led to many conflicts. Town or city forestry — now incorporated within the broader concept of urban forestry — has been the type of forestry most directly and instantly affected by the urbanisation process and its consequences for the relationship between society and forests. As classic forestry has not always been able to meet the specific requirements of urban settings, specific concepts and methods had to be developed by foresters operating in and near cities and towns (e.g., Krott and Nilsson, 1998).

3.2. A different kind of forestry

In what respect does town or urban forestry, then, differ from classic forestry? The comparative study of urban forestry in Europe presented evidence that urban woodland management does structurally differs from other types of forestry. A set of criteria and indicators for distinguishing urban from other types of forestry was developed (see Table 2). Although not all differences will be dealt with in great detail here, urban forestry is very much characterised by its operation in high-pressure urban environments. Typical urban pressures include the intensive competition for scarce land, high levels of pollution, and the fragmentation of forest resources due to urban development. Perhaps most notably, it differs because of the need to accommodate a large and diversifying demand for forest uses

Table 2
Selected key criteria and indicators for distinguishing urban forestry from other types of forests and forestry (adapted from Konijnendijk, 1999)

Criteria	Indicators for urban forestry	Conventional forestry
Location	In or near an urban centre with which the forest concerned has a clear relation (see below); most urban forests are situated within 10–20 km of the city centre	Mostly more remote from urban areas, situated in rural areas
Urban forest use	The main urban forest functions/uses are recreation and protection Wood production is only of secondary importance in most cases	Main function of most forests continues to be wood production
Conflicts	Conflicts are more frequent regarding urban forests, than for forests at large. See also the specific problems of urban development and a high (recreational) use	Conflicts occur, but seem (on average) to be less frequent and intense
Problems and issues	The set of main problems and issues in urban forestry differs from forestry at large, mainly due to the high urban pressures and societal demand	Problems and issues are less 'urban' in character. Vandalism, recreation pressure etc. are less pressing problems
Actors in policy process	Dominance of local actors (and their interests) in policy-making processes. Decisions are largely based upon these interests; local stakes dominate	The role of regional and national actors (governmental, NGOs) is more dominant. Level of interference by local inhabitants generally lower
Policy instruments	The policy instrument mix for urban forestry differs in the sense of e.g. A higher monetary input per hectare	Monetary input per hectare lower than in urban forestry
	Higher importance of communication and public relations means	Communication and participation instruments often less developed, as the need for them is less pressing than in urban areas
	Larger role for public participation, consultation structures and procedures	

by means of a very limited resource base, even though large differences exist between European cities when woodland resources are concerned. While Freiburg, Germany, has no less than 327 m^2 of forest available per inhabitant within its municipal boundaries, the Dutch city of Amsterdam has only an estimated 1.5 m^2. The high pressure on urban woodland areas can be derived from visitor numbers, which often exceed 1000 visits per hectare per year and in some cases can be as high as 5000–7000 (Konijnendijk, 1999).

As a direct result of the above situation, the conflict potential related to urban forests is extremely high. Study of urban forestry history as well as of contemporary urban forestry provides many examples of social conflicts over urban forests. In various cases, these conflicts have concerned protests of local urban inhabitants when they felt that 'their' forests were under threat, for instance by urban development. The people of Oslo, for example, marched through the streets of the capital in protest of the establishment of a high voltage line through the Oslomarka forest (Opheim, 1984). In the Netherlands, the establishment of part of a highway through the Amelisweerd forest near Utrecht led to a long-lasting conflict between the state and protesters during the 1970s and 1980s (Grimbergen et al., 1983). But past protests also concerned disagreement with the cutting of trees or 'forestry practices' by authorities in general. A group of Parisian artists ('School of Barbizon') prevented the French forest service from cutting an ancient part of the Fontainebleau forest during the second half of the 19th century (Kalaora, 1981). A selection of recent urban forest conflict cases in selected, larger European cities, as included in the comparative study of urban forestry in Europe (Table 1), shows that contemporary conflicts often also concern urban development (e.g., highway construction) threatening urban forests

(Konijnendijk, 1999). Local inhabitants and interest groups have protested against the proposed forest conversion. On the other hand, urban inhabitants are sometimes concerned about the establishment of new urban forests, for example due to concerns about safety and vandalism (e.g., Hannon, 1996; Johnston et al., 1999) or due to a negative image of forestry (timber production only, monocultures of coniferous trees) (Collins, personal communication).

More directly linked to the changing values related to nature and forests are frequently occurring conflicts over forest management. Public, environmental groups and forest managers disagree on questions such as what aims should management strive for, by what means, and how much human interference is needed. Here a clash can be noticed between the more utilitarian approach of a profession (forestry) with rural roots, and the new attitude of urban society towards nature ('leave it untouched' or 'reserve forests for nature experiences') (e.g., Paris, 1972; Otto, 1998). Urban inhabitants specifically object to the cutting of trees, for urban development as well as for regular forest management purposes (e.g., Krott, 1998; Otto, 1998). The strong negative feelings urban inhabitants often have towards the cutting of trees seem deep rooted in strong (psychological) relationships between people and the trees in their living environment (e.g., Kaplan and Kaplan, 1989). In addition, as mentioned, the level of awareness of forest management activities, including tree cutting, has gradually diminished among urban dwellers (e.g., Otto, 1998).

But the general public with its changing values, norms, perceptions and preferences is not the only party that urban foresters must take into account. Urban areas include a wide range of interest groups, all with their own specific agendas, e.g. transport, developed sports areas, outdoor recreation and education, etc. In the case of urban forests, environmental groups have played a leading role. Conflicts between environmental groups and forestry administrations are mostly related to the role of natural processes and values in urban forestry (see Table 1). But environmental groups are also important contributors to urban forest protection, management and study, often in collaboration with forest managers (Konijnendijk, 1999). Additionally, the forest or green administration often holds a difficult position within the city administration, being a 'soft' sector without — at least at the time — many direct monetary benefits versus seemingly high costs. Communication and collaboration with politicians and other professionals is a very important issue. Close cooperation between horticulturists, urban planners, landscape architects, forest and green space managers and others both within and outside the city administration are needed for urban forestry to be successful. Another group to take into account are the private landowners, including private forest owners and, perhaps most notable, farmers. Across Europe, efforts are being undertaken to establish new urban forests, often at the urban fringe, in order to meet the growing demands of urban society. Here, a conflict with agriculture occurs as agricultural lands are often targeted for forest expansion (Konijnendijk, 1999).

Consequently, urban forestry is operating in an extremely volatile social conflict context. Constant public and political scrutiny lead to urban foresters working, unlike the traditional image of foresters operating in more rural areas, behind a glass window, with many urban noses glued to the other side of it. The public at large, interest groups, politicians, private landowners, the commercial sector and others all want to have a say in urban forestry policy-making processes. As most actors involved are local, the level of their commitment and involvement is often very high. Thus, urban forestry is social forestry in optima forma. Over the ages, it has gradually shifted away from classic forestry with its roots in rural areas and in rural values and norms. It has had to take the many values, norms and interests of local, urban society into account from the early days onwards. As a consequence, it has developed its own, specific mix of concepts and instruments of its own (see Table 2). Many of these instruments relate to improved interaction, or 'communication', between different stakeholders, and thus to the social character of urban forestry.

4. Development of communication tools in urban forestry

Ronge (1998) suggested that one way to deal with the range of pressures and conflicts facing urban forestry is for urban foresters to move closer to the public at large and communicate values, norms,

interests and objectives. In Table 2, communication and participation are mentioned as important policy instruments for urban forestry. Here, the term 'communication' is used in a wide sense, incorporating activities of information, education, consultation and participation (e.g., Johnston, 1985, 1989), ranging from 'talking to them' to power sharing of woodland managers with other stakeholders. Below, five key questions related to the use of communication tools in urban forestry are discussed, based upon the results from the comparative study of urban forestry in Europe.

4.1. Why communicate?

Why is sound communication needed in urban forestry? As mentioned, due to the continuing urbanisation process, urban dwellers have become less familiar with natural processes and the many functions of forests, and yet are becoming more vocal regarding what they perceive as being the best. Communication methods can be used as a means of public education and raising awareness (e.g., Johnston, 1985). They may help to increase understanding of forestry practices with the public on the one hand, while enhancing foresters' understanding of what the urban public expects and demands from forests and forestry on the other. Misunderstandings can thus be minimised. The general awareness of nature and natural processes may also be increased, by using the example of the woodland at people's doorstep. Simson (personal communication) mentions how (urban) forests often still have a rather negative image, for instance as being associated with crime. Public education and involvement could be one way to turn around this negative picture. The message that forests can contribute to a 'positive image' of a city and as a means to attract businesses is now actively communicated is various countries and cities across Europe (e.g., NUFU, 1998). Communication is also used to avoid or at least minimise conflicts, as mentioned. In cities such as Arnhem and Helsinki, urban foresters have only become really successful with conflict management when public communication and participation were centrally placed within daily urban forestry practice. Communication tools may also assist in limiting abuse of urban forests.

In addition, communication is also a instrument for generating support for urban forestry. During the first two editions of the European Forum on Urban Forestry, urban forest managers stressed that they need the help of the public, of interest groups and of politicians to bring their message across and to conserve, manage and develop the urban forests (e.g., Krott and Nilsson, 1998). In order to place urban forestry higher on the local political agenda, the positive image of 'green' and 'forest' is not enough. Urban foresters will have to talk in terms of clear costs and benefits in order to maintain and strengthen their position within the city administration (Krott, 1998; Ronge, 1998). In the English Community Forests, community involvement and participation is seen as a major objective when 'new landscapes' including a high proportion of forests are created near 12 of the countries' urban agglomerations. In order to be successful, the local community must develop a feeling of common ownership for the forests. According to community foresters Davies and Vaughan (personal communication), the attitude of 'it's their forest' must be changed into one that states 'it's my forest'. In Flanders, Belgium, the current resistance of farmers and others against the establishment of new urban forests can allegedly only be overcome with the support of other key stakeholders (Vitse, personal communication).

Better communication can enhance the legitimacy of professional forest managers. The certification of forest management is one way of creating transparency. Urban woodlands have been at the forefront of the forest certification process, for example by the Forest Stewardship Council (FSC) certification of urban woodlands in and near Brussels, Arnhem, Hamburg, Gdansk and Brno. The importance of involving local communities is a key element in the discussion on forest and forest product certification, which could partly explain the success of urban forestry in this respect.

4.2. What to communicate?

Before urban foresters start their communication with different audiences, they have to formulate a clear vision and subsequently a clear message. In the case of urban forestry, messages have often been 'positive', but they have to be put in the right way in order to have effect with different audiences. The earlier mentioned notion of 'it's my forest' is an example of a message that may help to generate public

involvement in and support for urban forestry. A problem in European urban forestry today is that clear visions, for instance in the form of a formal policy or planning document, are often lacking (e.g., Konijnendijk, 1999). Following the elaboration of a vision is the development of the message. When doing this, the specific group with whom to communicate should be carefully kept in mind.

4.3. Who should communicate?

This raises the question of who should communicate from the urban forest management side. Foresters often lack training in communication, education and marketing techniques. One option is to better prepare foresters for the current tasks (e.g., Kennedy et al., 1998), while another way is to involve experts in public relations communication, education and conflict management in urban forestry, as has been applied in various European urban forestry situations. But not only forest managers need to be encouraged to improve communication. Other key stakeholders, including the public at large, should be 'educated' to better communicate their values, opinions and interests to others.

4.4. To whom to communicate what?

It is important to differentiate between different audiences when communicating. From the perspective of the forest managers, focus can be on three main target groups: the public at large (including interest groups); politicians; private landowners (forests, agricultural land). As mentioned, forests and trees have had many different socio-cultural meanings. They are related to myths, fairy tales, and to various experiences that differ per individual or group. Among the general public, children in this respect may have different needs and preferences than adults (e.g., Rydberg, 1998). When communicating with the public, the different (traditional) cultural values of forests and trees need to be taken into account.

The support of influential politicians and opinion leaders is a prerequisite for any urban forestry programme or activity to become successful. In many cases, politicians have used green and forests (establishment) as a political instrument to increase their popularity. A more structural support for urban forestry, also in monetary terms, would however require a better valuation of urban forest benefits and costs, also in monetary terms. Urban forests then may prove to be rather inexpensive to establish and maintain when compared with other popular recreation and environmental facilities (e.g., Jones, 1996; NUFU, 1998).

The group of private landowners also asks for special attention in communication strategies. Private forest owners in urban areas complain about the lack of compensation for the intensive use of their forests. Farmers often see forests as a threat and expect proper compensations for having forests established on their lands. Individual farmers may often show themselves interested in afforestation when they hear about all benefits and costs. However, farmers organisations are often more defensive towards forestry.

Other target groups, however, should not be neglected. Particularly given the multi-disciplinary nature of urban forestry, communication and collaboration between professions such as forestry, horticulture, landscape architecture, urban planning are both crucial. Important are reciprocal understanding and awareness of each other's perspectives, objectives and activities both within the city's green space administrations and within the municipal administration at large. The commercial sector is an important player particularly when it comes to finding innovative ways of funding urban forestry.

4.5. How to communicate?

Finally, there is the issue of how to communicate. In a time where the gap between urban and rural values and processes is widening, instruments for communication must be innovative and imaginative. When focusing on the general public, instruments simply must be fun in order to maintain interest and compete with other issues and activities (e.g., Johnston, 1989).

Johnston (1985, 1989) has distinguished three main communication elements of community forestry programmes involving the public:

1. *Education and information*. In order to generate sufficient interest in trees to motivate residents to become involved. Examples are notification of proposed work, technical information, exhibitions and displays, and talks and guided walks. The media play an important role, but other, innovate

methods have to be explored (e.g., Otto, 1998). Methods have to be adapted to different social groups. Today, many European urban forests host forest schools, were school children are brought in touch with nature and forestry (Konijnendijk, 1999).

2. *Consultation*. This demonstrates to residents that they have a responsibility for their trees and an effective voice in influencing management. Examples of methods are public meetings, community group discussions and tree committees. In Denmark, so-called local forest user boards help to take the wishes of various users into account when planning and managing (e.g., Konijnendijk, 1999).
3. *Participation* (*in a practical way*). Public awareness and appreciation can be encouraged by involving them in, for example, management, tree planting schemes, sponsor-a-tree schemes, work as tree wardens. Moreover, participation in urban or community forestry has been recognised as a means of strengthening communities (e.g. Burch and Grove, 1993). Curry (2000) mentioned how the United Kingdom experienced a shift in government style from executive to enabling in 1980s and 1990s, and how community participation in e.g. green area management has grown. The French State Forest Service set up a forest education programme in the Paris Region. About 4000 children between 7 and 11, from many different ethnic groups, have become involved in the Junior Forester Education Programme in the regional forest of Bondy. The programme allegedly even has positive effects on the social conditions within the high-crime area (Moigneu, personal communication). Participation programmes must be well-organised and planned, for example in terms of benefits to the participants, term, support, motivation, in order to be successful (Still and Gerold, 1997).

For the English Community Forests, Davies and Vaughan (personal communication) make a distinction between involvement and support for community ownership to underpin the development of community level activity and provide the financial and technical resources necessary to make them sustainable over the longer-term.

Arts are increasingly seen as a means of communication and of linking people with the (new) landscape. They may assist in overcoming the negative aspects of woods, for example in being related to crime. When properly used, in a collaborative process with local stakeholders, arts can create a sense of belonging. Here, again, we touch upon the commitment of people towards for instance urban forests in their living environment. Also of importance in this respect is to use arts and landscape simulation, for example via computer visualisation, as a means to determine people's preferences for and attitudes towards forest landscapes, stands, management regimes, and so forth. The instrument of forest certification to promote transparency and public involvement in management has already been mentioned as an additional instrument.

5. Discussion: urban forestry's lessons

In spite of the higher emphasis placed by today's society on natural values, the ongoing process of urbanisation has led to a widening of the gap between urban and natural as well as rural values and processes. Natural resources manager, including foresters, face the difficult task of bridging this widening divide in their daily work, while having to meet growing and diversifying social demands with resources that become scarcer and are under high urban pressures.

In the paper, it has been attempted to show that the ongoing 'urbanisation' of forestry — not only in a spatial-physical sense, but also due to the growing dominance of urban values in modern society — is not a completely new phenomenon. Having a tradition of operating in and near cities for ages, urban (or previously: town) forestry has been a forerunner in the development of forestry and a type of social forestry avant la lettre.

It could be discussed whether or not urban forestry is really structurally different from forestry at large, as argued in this paper. Given the current changes within forestry at large, such as more attention for social and environmental values, stakeholder participation, the difference between urban forestry and other types of forestry may indeed become smaller. Everywhere in Europe, forestry is now facing urban demands and

pressures to some extent and adapting to be more broadly socially sensitive to changing values and power sharing. However, forestry closest to urban areas is, understandably, still the most heavily affected by urban pressures and developments (see also Krott, 1998; Otto, 1998). Urban forestry itself is developing, as more emphasis is for instance placed on communication tools, including methods of participation. The development of these instruments is needed, as the conflict potential and pressures facing urban forestry are increasing and ways have to be found to more efficiently, equally and fairly produce a wide range of goods and services for local urban society. The other professions involved in urban forestry should be encouraged to undertake similar efforts to develop communication, participation and other instruments, in a coordinated effort to meet the demands of modern urban society. Consequently, urban forestry continues to be a testing ground for innovations in forestry as well as in other disciplines and professions. In addition, it plays a crucial role in guaranteeing a regular contact between urban dwellers and natural and rural values and processes, while (hopefully) protecting future use options for millions unborn.

Acknowledgements

The author would like to thank Kevin Collins (formerly Tree Council of Ireland) and Dr. Frank Søndergaard Jensen (Danish Centre for Forest, Landscape and Planning), as well as two anonymous reviewers, for their valuable comments and suggestions.

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