



# Development of urban forest governance in Turkey



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## ABSTRACT

Urban forests are considered an important resource for introducing forests and forestry to urban society in Turkey, with the number having risen rapidly to 133 since their introduction in 2003. Unfortunately, following initial decisive and determined actions to establish urban forests by the General Directorate of Forestry, the momentum has now been somewhat lost with the consequence that many urban forests are now falling into a state of neglect. This study aims to determine what needs to be done in terms of the regulation, planning and management of urban forests in order to help society to make better use of the resources and services that these areas can provide. The study will also develop recommendations which aim to improve the standards of urban forest governance.

Assessment results indicate that, in order to improve the management of urban forests, the legal framework needs to be structured in such a way that highlights the characteristic features of urban forestry whilst also ensuring increased levels of public participation. In addition, it is essential that a diverse range of public bodies, citizens' groups, NGOs and experts from different professional backgrounds are involved in the selection, planning and management of urban forests from inception through to delivery and throughout ongoing day to day management procedures. Participation should also include experts and organisations from outside the forestry sector.

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## 1. Introduction

By 2014, just over half of the global population were living in urban areas. In the next 35 years, this trend is expected to continue, so that by 2050, the urban population will be effectively double that of rural areas (UN, 2014). From the second half of the 20th century onwards, rapidly expanding urban populations have increasingly demanded more diverse functions from their greenspaces. Pressure on greenspaces resulting from such demands, has given rise to new approaches such as urban ecology and urban greenspace planning. It is within this context that urban forestry has developed. According to [Randrup et al. \(2005\)](#), urban forestry “should be seen as only one of a series of strategic, interdisciplinary, and participatory approaches aimed at optimizing planning and management of urban green structures in order to provide multiple benefits for urban societies” ([Randrup et al., 2005; p. 20](#)).

As a specialist branch of forestry, urban forestry is different from the traditional forestry practice, where forests are considered and managed as a commodity to provide timber resources and other woody biomass products. In urban forestry however, forests are valued for their aesthetic and environmental qualities; to be “har-

vested” only when they die or become hazardous ([Gerhold, 2007](#)). Whilst rural forests are most often valued for the forestry and wildlife products that they provide, urban forests are frequently considered in terms of their real estate development potential or as recreational areas ([McLain et al., 2012](#)).

Forests in urban areas can provide multiple ecosystem service benefits including improving air and water quality, reducing greenhouse gas levels through fixing carbon, regulating microclimates and urban temperature, reducing noise pollution, improving human health and wellbeing (including through reducing rates of aggression and violence in cities), enhancing biodiversity in urban areas and providing recreational areas and opportunities for environmental education ([Kuo and Sullivan, 2001](#); [Özkazanç, 2002](#); [Uzun et al., 2007](#); [Atmîş et al., 2007](#); [UEI, 2008](#); [O'Brien et al., 2014](#); [Krajter Ostoić and Konijnendijk van den Bosch, 2015](#)). These functions contribute to improved environmental quality, enhanced quality of life and to the more sustainable management of urban areas. As [Dirik and Ata \(2005\)](#) point out, urban forestry efforts mainly focus on helping urban dwellers to familiarise and learn about trees and woodlands, their diversity and their wider multi-functional benefits. They achieve this through integrating forestry and its ecological functions within the context of urban planning and through building the required institutional capacity and legal framework to make this possible.

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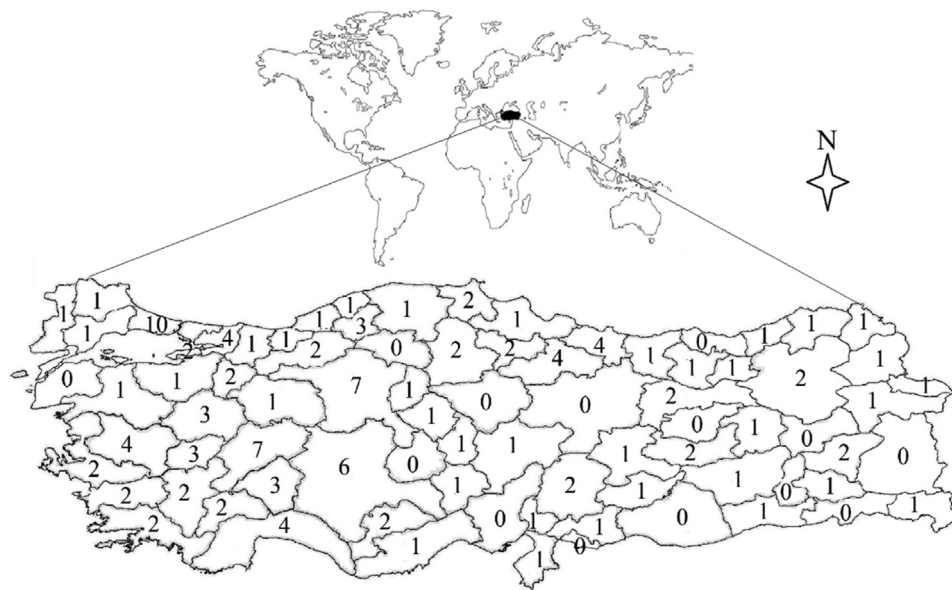


Fig. 1. Location of Turkey and number of urban forests by provinces.

Urban Forests are also a particularly important part of green infrastructure, which is defined as “a strategically planned network of high quality natural and semi-natural areas with other environmental features, which is designed and managed to deliver a wide range of ecosystem services and protect biodiversity in both rural and urban settings” (EU, 2013, p.7). Urban populations greatly benefit from urban forests as a component of a wider green infrastructure through visiting and enjoying such areas. This contributes greatly to the quality of life within urban areas (Hartig et al., 2014).

Immigration from rural to urban areas in the recent years has created a considerable change in the demographic structure of the cities, which now host 92.1% of the total population of Turkey (TUIK, 2015). Naturally, such rapid urbanisation has caused impacts upon the natural environment, with negative effects upon ecology and with consequences for the urban forest users themselves. Problems such as deteriorating air quality, higher temperatures, noise, stress levels and a decreasing sense of community are common to cities within many developing countries. Urban greenspaces are not only important, but are vital, to cope with the various challenges posed by the exponential population growth which faces third world countries today (Ahmed and Hassan, 2003; Atmiş et al., 2007).

The first urban forest within Turkey was established in 2003 as an illustration of how green infrastructure might effectively be developed to deliver ecosystem services in response to the needs of ever-expanding cities. By 2016, the total number of urban forests had reached 133 (OGM, 2016), with the stated aim of the General Directorate of Forestry (OGM) being to establish urban forests in every province and large district. However, despite these initial intentions, it appears that urban forests in Turkey are currently being planned and managed to deliver limited recreational functions, rather than being developed to serve multiple and diverse ecological, social and economic aspirations. Furthermore, it is suggested that urban forests are not actually being well-managed for a number of different reasons (Atmiş et al., 2011, 2012).

The legal and administrative basis for urban forestry in Turkey is, in reality, incomplete due to the fact that the establishment of urban forests was facilitated by OGM within a relatively short timescale and without the prior development of proper planning procedures. These deficiencies resulted from unrealistic demands from central government who demanded the rapid establishment of urban

forests. The consequent problems arising from insufficient and poor planning of urban forests, such as random site selection, lack of staff recruitment and insufficient finances, have been identified by various authors.

In this context detailed prior assessments were not initially undertaken due to the fact that urban forests were not initially considered within planning literature or related legislation (Coşkun and Veliöğlu, 2004), establishment criteria for urban forests were inadequate (Elvan and Veliöğlu, 2004), the basic demands and requirements of urban dwellers were not considered within the planning process (Oğuz, 2004; Çakıcı and Çelem, 2004) and due to the lack of clarity which resulted in conflicts between the institutions involved in the planning and development of urban forests (Çağlar, 2004).

This study aims to determine what needs to be done in terms of the legislation, planning and the management of urban forests in order for them to deliver their various functions and effectively optimise their benefits for the wider society as a whole. Recommendations on improving the standard of urban forest governance will also be developed, through examining the reasons why urban forests have not up until now adequately fulfilled their environmental, social and economic functions.

## 2. Methods

According to data from OGM in 2016; out of 133 urban forests in Turkey, 63 are located in metropolitan areas, 40 are in provincial centres and 30 in district centres (Fig. 1). The total area of urban forests is 10,314 ha and their average size is 77.55 ha. The largest urban forest is Kanuni Sultan Süleyman Urban Forest in Istanbul with an area of 847.90 ha, whilst the smallest is Oğuzhan Urban Forest in Bucak District of Burdur Province at only 0.45 ha (Table 1).

The highest concentration of urban forests is within Istanbul, which has 10 urban forests, while Ankara and Afyonkarahisar both have 7 urban forests respectively. There are no urban forests within 14 provinces which include the metropolitan areas of Adana, Şanlıurfa and Trabzon. 2005 was the year in which the greatest number of new urban forests were established, with a total of 32 new areas (Table 1).

In this paper, the author's previous work and research on urban forests has first been examined (Atmiş et al., 2007, 2011, 2012,

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