

## Urbanization pressures on the natural forests in Turkey: An overview

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### Abstract

Forests used to be the main field of interest for rural communities, but now they attract the attention of urbanites too. The forest–public relationship is important as forests protect water resources, preserve the soil and increase its productivity, provide positive effects on climate and health in general, and can be used for recreation and tourist purposes. This study aims at assessing how the current rapid urbanization process in Turkey affects forests. Urban requirements such as biomass for heating, education facilities, settlements, recreation, tourism and employment exert various pressures on the forest. In this study we assessed these pressures and suggest that forest legislations should be developed to respond to expectations of urbanites from forests, new recreation areas should be developed and urbanites' interest in and knowledge of the forests should be increased, where all social groups including the forestry authority should work together.

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### Introduction

Urbanization is one of the most evident global changes in the world. During the last century, rapid urban growth has exerted heavy pressures on land and resources, in urban as well as rural areas (Hoogstra et al., 2004). Large parts of the world have become highly urbanized and the majority of the world's population now lives in cities and towns (Konijnendijk, 2003). In 1900, only 9% of the world's human population lived in “urban environments”. This figure had increased to 40% by 1980, 50% by 2000, and is expected to increase

to over 60% by 2025 (McIntyre et al., 2000; Konijnendijk et al., 2003). In developed nations, 80–90% of the people live in cities, whereas in the poorest nations only 20% live in cities (Botkin and Beveridge, 1997; Konijnendijk et al., 2003).

In Turkey, immigration of many rural people to big cities, especially during recent years caused the demographic structure to change considerably. According to the year 2000 census 65% of the population lives in urban centres. This percentage is estimated to reach 89% in 2025. In most countries, the majority of the population will live in large cities in the near future. Therefore, if we are interested in helping people to live in better environments in an urbanizing world, there is an urgent need to study urban environments (Botkin and Beveridge, 1997).

The rapid urbanization process can cause various problems. A high population growth rate along with

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urban development leads to an exploitation of the nature, resulting in an unhealthy ecology, affecting urban forest users. Cities in many developing countries are experiencing various problems, like deterioration of air quality, higher air temperature, increasing noise levels, greater psychological stress and a decreased sense of community. There is an urgent need for urban greenspaces, because without urban greenspaces, the exponential population growth in the twentieth century will lead to physical, social, psychological and environmental hazards in third world countries (Ahmed and Hassan, 2003).

Urban forests, greenspaces and herbaceous open spaces play a vital role in the environmental and aesthetic “health” of cities (Iverson and Cook, 2000). The values and benefits are manifold, including providing recreation possibilities and urban biodiversity. The importance and demand for urban woodland is anticipated to increase, due to the continuing urbanization process (Ode and Fry, 2002). In many parts of the world, urban forest pressures are increasing. Elands et al. (2004), for instance, state that Europeans visit the local forests quite frequently.

At present, societies are considerably interested in forests, not only for wood production, but also for their non-timber values. The forest–public relationship is important as forests protect water resources, preserve the soil and increase its productivity, provide positive effects on climate and health in general, and can be used for recreation and tourist purposes. Moreover, urbanites have changed their conventional view towards forests, and diversify their expectations from forests (Mansfield et al., 2005; Jim and Chen, 2006). As the socio-cultural services which can be provided by forests become better understood, such expectations increase and diversify. These expectations can lead to positive as well as negative outcomes. Thus, environmental, educational and especially recreational aspects are of increasing importance for planning and management of forests in an urbanized society (Konijnendijk, 2001; Elands et al., 2004).

There is more to the forest–public relationship than just the rural dimension. Urbanites establish various relationships with forests and may have various expectations such as socio-cultural and environmental values of forests, apart from economic values (Konijnendijk, 2003). Public expectations can also exert pressure on forests and eventually damage them. While the forestry sciences are traditionally applied to the rural context, there is a growing pressure on woodlands from increasingly urbanized societies living in and nearby urban areas (Elands et al., 2004). Therefore, “the forest–public relationship should be considered from two perspectives, i.e. the relationships between rural communities including forest users and forests, and the relationships between urbanites and forests” (Ekizoğlu, 1997, p. 25).

This study aims at assessing how forests in Turkey are affected by the current rapid urbanization process. Various urban pressures on forests in Turkey are presented and changes in Turkish forest policy to meet these challenges discussed.

## Material and methods

### Background

The main Turkish forestry organization is the Ministry of Forestry, which was founded in 1969. They are responsible for afforestation, nurseries, national parks, protected areas, wildlife, and game management. The Ministry of Forestry merged with the Ministry of Environment in 2003. The newly formed Ministry of Environment and Forestry controls the state-owned enterprises which are in charge of various forestry activities, namely: (1) General Directorate of Forestry, (2) General Directorate of Reforestation and Erosion Control, (3) General Directorate of Nature Protection and National Parks, and (4) General Directorate of Forest and Village Relations. These are known as the umbrella directorates of the Forestry Organization (Atmiş et al., 2007b).

The State Forestry Organization, which is under the responsibility of the Ministry of Environment and Forestry, is specialized in several forestry issues and has offices in every region of Turkey. In addition, the Forestry Organization has existed for a long time and is the most powerful organization among its peers in the Middle East, Balkan Countries, Caucasian Countries and Central Asian Republics (Anonymous, 2003).

Turkey has 212,000 km<sup>2</sup> of forests and 99% of these are owned by the state and other public entities. There are various pressures on the forests in Turkey originating from rural and urban people’s demands. Rural people in Turkey can be divided into two groups, namely forest villagers and others. Forest villagers constitute the poorest part of the community and they depend to a large extent on forests. As forests have been degrading, the poor have become even poorer (Anonymous, 2005).

The population of big cities has risen due to rapid migration from rural areas to urban areas, increasing the pressures on the natural forests around the cities. The current urban recreational demands and tourist activities are further increasing pressures on natural forests around cities. Therefore, the natural forests around urban settlement areas receive considerable attention in this paper.

From 2003 onwards, urban forests have been established by the Ministry of Forestry and Environment with the aim to decrease urban pressures on the natural forests around cities. A congress was organized

by NGOs and forestry associations which aimed at discussing some of the problems and issues related to urban forests. During the first National Urban Forestry Congress held in 2004 in Ankara, “urban forestry” was the main topic of discussion among several scientists from various areas (Anonymous, 2004). One of the main outcomes of this Congress was that urban forestry is now considered to be an important issue in Turkey.

This study does not attempt to deal with the vast range of technical issues concerning urban forestry, but will rather concentrate on people’s interactions with urban forests in Turkey. The thesis of this paper is that the traditional forest organization of Turkey is not sufficiently trained to deal with urban forests. The reasons of the pressures on the forests in Turkey and expectations of urbanites from forests are important and this is the basic target of this study.

### The review process

The review process for this study started in 2003, which is the same time when urban forests were established in all the Turkish cities by the Ministry of Forestry and Environment. The idea for this study emerged during discussions at the National Urban Forestry Congress. Data and documents relevant to this study were collected between August 2003 and June 2006. During the research, data and documents were collected from the Ministry of Forestry and Environment, the Turkish Foresters Association, the Research Association of Rural Environment and Forestry, the Chamber of Landscape Architects, the Chamber of Environmental Engineers and the various Forestry Faculties in Turkey. Also international publications were reviewed for comparing the paper’s results to experiences elsewhere.

The results in this paper are based on a review of Turkish literature which contain historical records of the forests around urban settlements. The results section provides literature references to these records, which

resulted in the qualitative but also quantitative information as displayed in Tables 1–3. The quantitative information is used as support material for the mainly qualitative narrative method used in this paper.

We present data from various sources on changes in demographics of Turkish villages and cities (Table 1), deforestation as measured by forest offences and deforested area (Table 2), and we compare the level of development, using a social development index, with the urban deforestation and forest cover per capita in a selection of major Turkish cities (Table 3).

## Results

### Rural pressures

For a long time, forest users, mainly peasants with low-income levels, have been considered as exerting harmful pressures on the forests. Pressures, like “clearing the forests to develop agricultural fields, grazing, over-grazing, illegal wood cutting, etc.” (Özdönmez

**Table 2.** Number of forest offences (forest clearing for settlement purposes) and affected area in Turkey from 1981 to 1999 (OGM, 1999)

Years	Offences (#)	Affected area (ha)	Years	Offences (#)	Affected area (ha)
1981	14,096	6,176	1,991	8,615	2,827
1982	12,483	5,624	1,992	7,186	3,468
1983	8,477	5,027	1,993	5,899	3,561
1984	11,114	3,618	1,994	6,912	2,029
1985	11,040	3,151	1,995	7,525	2,217
1986	10,338	2,878	1,996	8,325	2,349
1987	11,074	4,393	1,997	5,130	1,537
1988	9,162	3,633	1,998	5,429	1,866
1989	7,213	2,583	1,999	5,384	1,375
1990	9,587	3,206			

**Table 1.** Population changes in forest villages, urban centres and Turkey from 1970 to 2004 (Atmiş, 2004; Anonymous, 2006a, b)

Years	Forest villages’ population	Change (%)	Rural population <sup>a</sup>	Change (%)	Urban population	Change (%)	Total population	Change (%)
1970	7,954,000	—	21,914,000	—	13,691,000	—	35,605,000	—
1975	9,332,000	17.3	23,479,000	7.1	16,869,000	23.2	40,348,000	13.3
1980	9,500,000	1.8	25,092,000	6.9	19,645,000	16.0	44,737,000	10.9
1985	10,161,000	7.0	23,799,000	−5.2	26,866,000	36.8	50,664,000	13.2
1990	9,117,000	−10.3	23,147,000	−2.7	33,326,000	24.0	56,473,000	11.5
1997	7,145,000	−21.6	21,948,000	−5.0	40,881,000	22.7	63,989,000	13.3
2000	7,378,000	3.3	23,798,000	8.2	44,006,000	7.6	67,803,000	6.0
2004	7,544,000	2.2	23,593,000	−0.9	47,559,000	8.1	71,152,000	5.0

<sup>a</sup>Forest villages’ population is included in the rural population.

**Table 3.** Cross section of urban population, forest cover, converted forests and level of development in some Turkish cities (Source: ÇOB, 2005; DPT, 2006)

Cities	Population	Forest cover (ha)	Converted forests (ha)	SDI	Converted forests per forest cover (%)	Forest cover per capita (ha)
İstanbul	10,018,735	242,420	18,233	4.81	7.52	0.024
İzmir	3,370,866	492,965	14,772	2.52	3.00	0.146
Kocaeli	1,206,085	146,566	5,338	1.94	3.64	0.122
Bursa	2,125,140	488,844	14,534	1.68	2.97	0.230
Eskişehir	706,009	351,505	9,456	1.10	2.69	0.498
Antalya	1,719,751	1,114,985	45,548	0.91	4.09	0.648
Kırklareli	328,461	258,695	14,757	0.86	5.70	0.788
Muğla	715,328	840,108	29,138	0.71	3.47	1.174
Mersin	1,651,400	847,493	39,287	0.52	4.64	0.513
Rize	365,938	157,515	14	−0.18	0.01	0.430
Trabzon	975,137	179,825	1,005	−0.19	0.56	0.184
Afyon	812,416	224,550	10,673	−0.27	4.75	0.276
Giresun	523,819	246,742	50	−0.37	0.02	0.471
Kastamonu	375,476	785,554	2,131	−0.38	0.27	2.092
Erzincan	316,841	157,935	0	−0.49	0.00	0.498
Erzurum	937,389	231,626	0	−0.53	0.00	0.247
Ordu	887,765	184,652	956	−0.64	0.52	0.208
Bayburt	97,358	14,163	6	−0.80	0.04	0.145
Kars	325,016	36,227	0	−0.82	0.00	0.111
Iğdır	168,634	161	0	−0.89	0.00	0.001
Gümüşhane	186,953	166,831	12	−0.93	0.01	0.892
Ağrı	528,744	5905	0	−1.28	0.00	0.011

et al., 1996, p. 192), damaging forest ecosystems and causing forests to decrease. To reduce harmful pressures on the forests, Turkish authorities even considered to relocate forest users. However, a relocation of forest users alienates them from the forests, while methods should be developed to support people to live in harmony with the forests (Atmiş, 2001). Moreover, effective and acceptable forest management depends on an adequate balance among a range of human factors, including stakeholders' values, perceptions, uses, attitudes and behaviours (Kearney and Bradley, 1998).

In practice, official Turkish policy aims at improving the economic position of rural forest users, rather than moving them away from forests. Measures based on the official forest policy were applied under supervision of the General Directorate of Forests and Rural Relations, but they failed to yield successful outcomes because of the lack of coordination between the Directorate and the other authorities. Unfortunately, rural forest users are still poor. We also have to remark here that all ministries have to work under tight budgets and this limits their ability to reach their objectives.

In Turkey, villages containing a forest within their administrative borders are defined as “forest villages” and are divided in two categories: (1) villages within a forest and (2) villages adjacent to a forest. The former

category is officially defined as “Villages containing a forest within their administrative borders, whose settlement area is surrounded with forests on all sides”; the latter category is officially defined as “Villages containing a forest within their administrative borders, whose settlement area minimally borders a forest at one side.” Inhabitants of these villages have a living standard far below the national average, while their agricultural fields are small, scattered and unproductive, education and healthcare services are limited, and unemployment rates are high. As a result, migration increased, causing the active village population to decrease (Özden and Mendeş, 2005, p. 39). However, migration also reduces the pressures on the forests and in the long run forests may well be able to regenerate. Nevertheless, the pressures on the forests near to urban centres have increased considerably.

In Turkey, 41% of the rural population lives in forest villages. In spite of the urbanization process starting from the 1950s, as well as internal migration from rural areas to urban areas, population of the forest villages steadily increased between 1970 and 1980. These increases were primarily due to high birth rates. Between 1980 and 1990, internal migration accelerated to such an extent that the population of forest villages decreased (Çelik, 1993). As a result, the total population of forest

villages increased from 8.0 million in 1970 to 9.3 million in 1975, decreased to 9.1 million in 1990 and decreased further to 7.5 million in 2004 (see Table 1).

Most of the forest users move into urban areas to escape poverty and to enjoy better employment, education, healthcare and welfare services. Such migration flows lead to dramatic decreases in the population of rural forest users. This decrease happens in spite of the rapid increase in the total population. The numbers of forest users, the rural, urban and total population over time are shown in Table 1.

A large number of forest users are not permanent, but only live in forest villages during summer. Most of them live in urban areas most of the year, but do not change their official residence records in order to continue to benefit from the social rights granted to forest users, whereas only senior citizens permanently reside near to forests. There has been a slight increase in the number of rural forest users from 1997 to 2004, which is most likely due to the introduction of social benefits.

While the population of forest users decreases, these users' negative effects on the forests decrease too. People need less firewood, consume less wood for building purposes as they need fewer houses, grazing decreases, as the livestock number shrinks, and they do not need to clear forests to develop additional agricultural fields. Most importantly, agricultural fields that are created via forest conversion in the past remain unused, due to a decrease of manpower, low productivity, and low agricultural incomes, so that these fields have become a part of the forest ecosystem again. Deforestation in the rural areas in the recent years aimed at developing land for property and profit purposes, rather than for additional agricultural fields.

A useful indicator of the lower rural pressures on the forests is the change observed in the number of so-called forest offences, which is an official Turkish statistic indicating the *illegal* clearances of forests for settlement purposes. As shown in Table 2, both the number of such offences and the amount of deforested areas have decreased year after year. These statistics, however, reflect all offences without discriminating between rural and urban areas.

### Urban pressures

The continued population increase and further urbanization constitute major factors that will affect the forest sector in the next decades in Turkey. Pressures on forest resources are increasing, particularly those related to land acquisition, while the pressure on rural forests will likely continue to decrease. Urbanization will be accompanied by an increased awareness which in turn will lead to a better management of forest resources (Anonymous, 2005).

Table 3 presents forestry characteristics of 22 cities in Turkey (ÇOB, 2005), namely the population number, forest cover, the amount of converted forests also known as “category 2B”, the social development index (SDI), the percentage of converted forests compared to total forest cover and the forest cover per capita. The cities are sorted according to the SDI to show the link of the level of development to other aspects of forestry. Inspection of Table 3 indicates that a higher level of development generally is achieved at the cost of a higher level of forest conversion, while there is no link to the level of forest cover per capita and the level of development. Hence, the data illustrates that it is a challenge to develop without deforestation.

### Forest land allocations

Deforestation is disguised under the umbrella of public benefits. Existing forests are allocated to commercial businesses under leasing terms ranging from 49 to 99 years for activities such as mining, education, tourism, landfill, solid waste areas and installation of power lines or road constructions, etc. It is obvious that all of these purposes are based on meeting urbanites' needs. Mining companies produce raw materials for various industries, coal producers serve heating and electricity needs of cities, while education and tourist facilities mainly serve urbanites as well.

To date a total forest area of 9,596 km<sup>2</sup> has been allocated to 18,937 real estate or corporate bodies (Anonymous, 2001). These figures indicate that 1.24% of the surface area of the Turkish territory and 4.63% of the total forest areas have been allocated to non-forestry activities. The three most important allocations, according to land coverage, are described below.

### Mining

As of 2001, a total number of 16,723 forest areas covering 39,746 ha have been allocated to commercial mining operations (OGM, 2002). In the European side of Istanbul there are 10,928 ha of open mine areas within forest areas, which is 4% of total forest areas, whereas 91.7% of mine areas in Istanbul are located in forest areas (Seçkin, 2006). It is reported that 3,734 ha of the forests controlled by the Kemerburgaz and central forestry authorities have been allocated to coal production in order to meet Istanbul's demand of coal (Mol and Hakyemez, 1995) and to meet the growing energy needs of Turkey.

Coal produced at these areas is of such a low quality that the municipal authorities have to ban its sale from time to time. Nevertheless, the outdoor coal production activities, which lead to deforestation and erosion of the

topsoil, are allowed to continue. Contracts for outdoor mining operations stipulate that after the leasing term expires, the operators will rehabilitate the affected areas and return them to the forestry authority. However, such rehabilitation efforts have failed to restore the forest ecosystem into its original state.

### Construction of educational facilities

Certain private universities prefer forest areas for building campuses. Opposed vehemently by the forestry insiders if not by the public, such allocations cause the forests' ecosystem to suffer damages. Hence, forest areas, which are used for non-forestry purposes, often lose their forestry qualities. In Istanbul alone, the forest areas allocated to seven private universities cover a total surface area of 1,548 ha (Anonymous, 2000). In Turkey, 5,400 ha of forested area are allocated to various universities for building their campuses. For this reason, thousands of trees have been cut (Atbaşoğlu, 2004).

Although the total area occupied by these university campuses look relatively small, these areas rapidly turn into residential centres and attract more settlements.

### Tourism

Broad incentives given to the tourism industry in the 1980s facilitated large-scale construction of tourist facilities on stretches of the Aegean and Mediterranean coasts, putting pressure on coastal habitats, dunes, lagoons, forests, and agricultural land (Kudat et al., 1999). Numerous forest areas have been allocated to tourist companies to build hotels, motels, boarding houses, golf courses, horse riding courses, etc. in the Marmara, Aegean, and Mediterranean regions. It is reported that the forest areas allocated by the Ministry of Tourism to the private sector, since 1983 when the Tourism Incentives Law was enacted, cover a total surface area of approximately 150,000 ha (Ayanoğlu, 1999).

There are also problems in the land allocation process undertaken by the Ministry of Forestry for forests outside tourist centres, in the sense that forest area allocation for investments in the tourist sector is not predetermined. Hence, it is not clear which forest lands demanded by tourism investors are included in the allocation process, and this situation may cause subjective assessments and decisions favouring some tourism entrepreneurs. In addition, forest legislation is missing detailed environmental criteria, rules and responsibilities for tourism enterprises, which are needed to assure the long-term conservation of natural capital assets of the forests in the land allocation process (Kuvan, 2005).

Tourism investors have implemented their projects to build tourist facilities such as hotels, holiday villages,

golf courses, and sports facilities in these allocated lands. This has caused a decrease in forest area. In other parts of the forest, not included in construction sites, forestry interventions for the purposes of maintenance and protection are still being carried out by the forest enterprise. The allocation of forests to tourism and construction of summer houses have increased rapidly. This development has induced unplanned and extensive land use for construction, and has thus increased pressures on the forest. Other developments that affect the forest as a result of the allocation of forests for tourism are the depletion of forest sand and disposal of construction wastes in the forest (Kuvan, 2005).

### Settlements in the forest

Settlers undertake housing projects; construct houses and villas in forest areas in illegal ways or by using legal vacuums. In other words, both the rich and the poor prefer forest areas to settle even if their purposes are different. Article 52 of the present Forest Law no. 6831 allows for settlements up to a maximum of 6% of each private forest area. However, in big cities like Istanbul this rate is violated in many cases.

A total forest area of 12,000 ha has been allotted to commercial purposes at the Asian side of Istanbul through various changes in the relevant laws between 1973 and 1995. This portion corresponds to approximately 5% of the total forest area within the municipal borders of Istanbul (Erdönmez, 1995). Most of these areas are used for settlement purposes. Furthermore, most of the 473,000 ha allotted to deforestation under Section 2B of the Forest Law are located in and around the cities of the Marmara, Aegean and Mediterranean regions, which attract further domestic migration. According to law no. 6831, Article 2, these areas of land are no longer considered legally as forests. Under Article 2B, forest lands that have lost their forest character prior to 31st December 1981, and are determined to be suitable for agriculture, grazing, or human habitat, may be taken out of the forest regime and used as settlements for forest villagers (in order to avoid serious threats, such as landslides or extreme degradation of natural resources). Some of these former forests are allocated to village communities as common grazing lands or sold to the inhabitants presently using them, and the revenues from such sales are transferred to the Forest Villager's Development Fund (Kudat et al., 1999).

### Industrialization and infrastructure

In Turkey most of the industrial plants and facilities are located in and around big cities such as Istanbul, Ankara, Izmir, Adana, and Bursa. This has led to a

domestic migration towards those locations. This migration which started in the 1970s still continues. Since Turkey has insufficient infrastructure like roads, electricity, and property, migrants settled wherever they found space available, including forests near to those cities (Güneş and Elvan, 2003).

It is often debated whether productive agricultural fields or forest areas should be allotted to industrial zones and sites. Furthermore, toxic emissions, solid and liquid industrial wastes damage the ecosystem and other natural resources including forests. The construction and use of roads, canals, railways and airports have had a profound impact, like the destruction of the existing habitats.

### Supply of firewood

Poor people living in the shanty outskirts of the big cities mostly use firewood as biomass for domestic heating purposes. Their considerable demand of firewood leads to pressures on the production of firewood in urban forests. The emerging field of urban forestry underscores the dependence of urban poor on urban and suburban forests and tree resources (Stoian, 2005). These pressures also lead to illegal firewood collection. For instance, the demand for firewood in Istanbul leads to severe pressures on the forests not only in Istanbul but also on forests in Kırklareli and Kocaeli.

### Recreation

Recreation areas available to urbanites are far too few to meet overall demand. Utilization rates are much above their current carrying capacities and cause the recreation areas to lose their quality. More importantly, users tend to prefer forest areas which are not allocated to recreation purposes, because of the overcrowding of existing ones. Such overuse can be severely harmful for the ecosystem. Moreover, most users are unaware or ignorant to the basic rules, damaging the forests.

There are various recreational uses of urban forests in Turkey, namely walking, jogging, children's play, and picnic. Because of these activities, the quality of the forests changes, resulting in littering and erosion. The lack of planned recreation areas in the forest has made the control of recreation activities difficult (Kuvan, 2005).

### Discussion

The previous section showed that rural pressures on the Turkish forests decreased, while urban pressures increased. The Turkish Forestry Organization, but also NGOs, have not yet responded to this development as

their organizational structure is still mainly oriented towards rural forests.

Table 3 has shown that development in Turkey goes hand in hand with urban deforestation, indicating an increasing pressure on urban forests. In addition, urban pressures on the forest areas increase, as the general public's sensitivity and knowledge about forests has so far not been increased at all. Since the public's sensitivity for forests is insufficient, they tend to ignore the pressures that damage the forests. This social indifference is rooted in the fact that the public fails to grasp the collective importance of forests to them. In addition to a general lack of knowledge, forests can also be willingly and knowingly damaged. People may be well aware of the public interest, but they may also reason: if I do not damage the forests others will. Hence, they are caught in a prisoner's dilemma. Moreover, Turkish laws in a way encourage depletion of the forest, because after forest conversion the cleared plot is no longer considered a forest by law.

Various groups of stakeholders, such as rural people and urbanites, expect different things from the forests. When such differences are not balanced, forest resources can be damaged. At present, large consumers of the resources are entitled to express their views and to make decisions concerning forest resources, while other people have neither knowledge about, nor appreciation towards forests, making sustainable management of forests unlikely. According to Schraml's work in Germany (Schraml, 2003), the main attention has been on the following factors:

- (1) personal experiences in the forest,
- (2) the role of the media and especially those groups that influence the opinions published within the media, and
- (3) the role of opinion leaders within their personal environment.

Importance of forests from a social point of view was emphasized during the UN Conference on Environment and Development held in 1992 in Rio. One of the papers presented during this conference entitled "Statement of Forest Principles" (United Nations, 1992) suggests to increase the public's knowledge and sensitivity on the forests and to enable the public to contribute to forest management. A number of regional processes have been carried out between the member countries since this conference, aimed at determining the measures to be taken to increase the public's knowledge and awareness. As part of this process, Turkey is responsible to take measures for improving the attitude of all social groups towards forests.

Until recently, the official forest policy was limited to the opinion that they were just a source of firewood and that they were related only with forestry authorities and

rural people. However, rapid urbanization started to change the urbanites' traditional opinions about forests, so that the public's expectations from the forests began to diversify. However, these expectations still have to turn into a conscious movement, and the relations between different groups of stakeholders still have to be balanced.

Most of the social groups do not base their expectations from the forests on sound knowledge. The reasons for this are manifold, where also the forestry authority plays a role, because they do not view forestry affairs as an issue related to urbanites. The forestry authority relates forests only to rural people, more specifically only to forest users. Plans developed by the forestry authority, aimed to review the forest–public relationship, are always from the viewpoint of rural forest users, and they are focused on how to improve their economic level. Newspapers, magazines, leaflets, books, and radio and television programs from the forestry authority always focus on rural forests.

The forestry authority will stay ineffective against urban pressures as long as it continues to focus on rural people alone. Thereupon, the authority will not gain wide support in its struggle to protect the forests and will not be successful.

Some urbanites do not perceive forests as an ecosystem, largely reducing them to a group of trees or even just one tree. In addition to the forestry authority and other organs of the state, even non-governmental organizations contributed in a way to this misperception. The seedling planting campaigns, “monument forests” and forestry weeks arranged and held by these organizations served to form a tree-oriented opinion among the public.

Forests are a means of living for the local people; they meet many demands of the local people. Therefore, rural forest users are able to perceive how important the forests are for their well-being and to protect them for the sake of their own survival. However, this is not the case for urbanites. The forest is completely alien to urbanites, as they have only fragmented knowledge about it. A resource will not be protected as long as its functions are misperceived. People might not even consider it wrong to damage an undervalued resource.

Awareness of the environment is at best only slowly developing in Turkey. The present number of environmental organizations is limited. For example, a survey conducted with a number of people living in the province of Bartın indicates that only 2% of the interviewees are members of an environmental or forestry association, and most of these members belong to a hunting society or chamber of trade (Atmiş, 1999; Atmiş et al., 2007a, b). This rate is even lower in many other cities. On the other hand, the non-governmental organizations do not achieve much success due to both their own organizational structures and some other

reasons arising from social conditions in Turkey. Citizens hesitate to join non-governmental organizations as members and to become actively involved. Moreover, these organizations do not develop country-wide activities addressing all social groups (Atmiş, 2003).

## Conclusion

Urban pressures on the forest increase due to urban population growth. These pressures cause the forest areas to shrink on the one hand, and damage the forest ecosystems on the other hand. Moreover, it is a challenge to develop without deforestation. It is necessary to discover the reasons underlying these pressures. Thereupon, based upon the analysis in this paper the following suggestions can be made for the case of Turkey.

Urbanites' interest in and knowledge about the forests should be increased. Urbanites should contribute to forest management, the relevant decision-making processes, and the relevant implementation. This also fits into certain international conventions, which require urbanites to be informed about the forests and to allow them to contribute to forest management.

Forest legislation should be developed to respond to expectations of urbanites from forests and to decrease urban pressures on the forests.

Ensuring that urbanites and other social groups contribute to forest management is a task falling within the field of responsibility of the forestry authority. To do this, the forestry authority needs to be reorganized. For example, the present General Directorate of Forest and Village Relations (ORKÖY) can be reorganized as a General Directorate of Forest and Society Relations. The public relations department of this authority can be reorganized into a more efficient unit. The public relations department should be a flexible and open organization, involving a wide range of disciplines and interests, being actively involved in a collaborative dialogue. Broader and more inclusive visions and goals need to be formulated, where science and scientists can be valuable. As community-level participation and conflict management are increasingly important, diverse social science and people skills need to be recognized and developed (Konijnendijk, 2003).

Perception of the forest as just one tree or a group of trees should be overcome; the public should be educated to perceive it as an ecosystem. Moreover, the gap between urbanites and forests should be filled; they should perceive forests as valuable.

Messages of the authority to the public need to be based on correct information. Especially the true reasons of deforestation and measures that must be taken to stop it need to be communicated.

Non-governmental organizations should be supported to encourage the urbanites to act in an organized way to solve forestry problems.

New recreation areas should be developed to decrease the urbanites' recreation-oriented pressures on the forests. Social and environmental services such as providing opportunities for outdoor recreation and protection of drinking water for primarily urban populations have become prioritized in national forest policies (Konijnendijk, 2003). Recently the Forestry Ministry has established urban forests in all cities in Turkey. These urban forests should be well-planned and take the users' profiles and needs into consideration.

It is important to understand the role of forests for all social groups. Forests provide the public with various benefits, while at the same time they suffer damages due to social indifference. This is a tragicomic situation. To solve this problem, all social groups including the forestry authority should work together.

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