

Urban wood and modern life- the example of Timisoara City

*Gheorghe Florian BORLEA, Radu BRAD, Oliver MERCE -
Forest Research & Management Institute- ICAS Timisoara, RO*

1. Introduction

Timisoara, the city of gardens and parks, situated in the Western Plain of Romania at the intersection of parallel 45°47' northern latitude and meridian 21°17' eastern longitude, at equal distance from the North Pole and the Equator, represents today a cross-culture and traditions site, a symbol of democracy and a space of reference in modern Romania. The city area is around 37,5 km², and the population over 400 000 inhabitants.

Timisoara can be considered an example of wise transformation in the use of important coterminous areas as well as within the built-up area. The destination of these areas was changed for forest plantations, tree alignments, parks and gardens as a natural reaction which was determined in the past by the necessity of having clean air -Timisoara being built on marshy ground - and nowadays, in modern times, characterized by the presence of so many stress factors, in order to create better living conditions for its inhabitants.

The city has existed since ancient times - there are archaeological traces of Neolithic settlements, of the Bronze Epoch, of Dacian and Roman culture (Zambara or Zurobara and Tibiscum) and of Avar invasion (Beguei) - and was successively submitted to the various influences of Roman, Oriental, Austro-Hungarian, West-European and Romanian civilizations. Nowadays, Timisoara is a very well known city both because its peculiar charm and beauty and due to its tolerant and open climate of ethnical and religious harmony.

2. Description of Timisoara area

Geology and morfology :Timisoara is situated in the southern part of the Panonic depression, whose foundation is made up of crystalline schists and pretertiary sedimentary deposits.

Climate -Average annual and multi annual temperature (1880-1886; 1898-1918; 1922-2002)

I	II	III	IV	V	VI	VI	VI	IX	X	XI	XI	Annual
-1,	1,1	5,8	11,	16,	19,	21,	20,	16,	11,	5,6	0,8	10,6

Climate-Average annual and multi-annual athmospheric precipitations (mm) (1873-1915;1922-2002)

I	II	III	IV	V	VI	VI	VI	IX	X	XI	XI	Annual
39,	36,	36,	48,	64,	76,	63,	49,	40,	38,	48,	49,	591,9

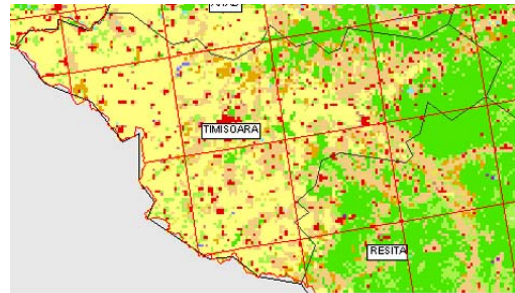
Pollution - The reduced amount of rainfall is the most damaging factor for the wood vegetation in the green areas of the city. Pollutants such as dust, sulphur, carbon and nitrogen compounds, organic and radioactive pollutants affect the aerial as well as the underground parts of the trees in the city.

Water resources- The Bega cannal, which crosses the city descending slightly (<0,40m/km) and the Timis river are the main water resources. In the past, the marshy area between them was often flooded, and the general climate very unhealthy. Nowadays there are three hydrogeological layers: shallow(2,0m-30,0m), medium (50,0m-120,0m), deep (24,5°C mineral water with Mg and Ca).

Flora and Fauna- The typical oak forest area decreased dramatically, becoming an "anthropic silvosteppe" with the respective changes in the flora and fauna. Especially, the birds and all swamp and pond fauna number of species and individuals were very much reduced. There are only two remaining Timisoara forests, Padurea Verde (800 ha) and Bistra (263 ha) and 100 ha of parks within the city area.



general view



Timisoara area



Timisoara Centre - "The city of parks and gardens"

3. Historical factors which have influenced the state and development of urban parks and woods in Timisoara

The first written mention of the “citadel of Timisoara” dates from 1177. The city was built on a swampy-flooded area crossed by Timis river, the channelled Bega river and by their numerous branches .

The development of the city started between 1315-1323, when Charles Robert d’Anjou established his residence here. After 164 years of Turkish dominance, the House of Austria charged the general Claudius Florimundus Count of Mercy to modernise the town. His praiseworthy activity is incontestable. They raised new buildings exclusively of brick and designed a new rectangular network of streets. A drawing made by Watthay F., in the middle of the XVIIth century showed a vast tree plantation in Timisoara (*Timisoara-Monografie-2002*, I. And R. Munteanu). Large parks (Palanca Mare and Palanca Mica) were established at that time. The city plans of the XVIIth century contain forest plantations (Maierle Valahe, Maierle Germane) and all major residences of the city are surrounded by parks and gardens. The first public park, with planted trees, established in 1781, was situated around the house of the Banat Region President. In the XIX and XX centuries, the concern of the inhabitants for planting trees increases. In 1850, the Governor of Banat planted 4 ha of trees (many remnants can be seen today). Parks and planted trees areas were established between 1870-1880.

The Professional Horticulture Service was setup in 1902 in a time of strong development of the city. Between the two World Wars, the activity of planting trees in the city specially designated places was very much intensified and more than 150 000 tree and shrub species were produced every year in order to be planted in the city area. In 1943 Timisoara had more than 200 ha of parks. The important development of Timisoara after the Second World War did not consider the adequate development of parks and urban forests.

4. Timisoara's Institutions and organizations influencing urban forest issues

Romanian Academy, branch Timisoara: Nature Sciences Section, Nature Protection Commission, Library of Academy

Western University of Timisoara: Faculty of Biology- Geography: section Biology, section Environmental Protection,

University of Agricultural Sciences of Banat: Faculty of Agronomy: section Biology, section Environmental Protection; Faculty of Horticulture: section Horticulture, section Silviculture

Highschools in Timisoara : Forestry Highschool and Technical school for forestry; nature science disciplines : biology, ecology, nature protection

Secondary schools in Timisoara : disciplines botany, zoology biology, ecology.

Primary schools in Timisoara : Nature science

Education in families is very important in Timisoara : the family attempts to protect children in an chaotic society development, parents still spend 25% of the time with their children, grand parents are very much involved in educational aspects of children under 12, still determinant for the behaviour of people in Timisoara

Relevant ONGs having an activity related to urban forests and parks in Timisoara:

Friends of the Roses Association- Uniunea Amicii Rozelor-founded in 1928 ; (834 varieties of roses in Timisoara parks), very important activities in order to develop and maintain the green areas of Timisoara city.

Progresul Silvic Society (professional association of foresters-regional branch), senior foresters very much dedicated to urban forests

Verde 2000 – ecological association promoting the ecology principles in the social life

Ecological Education Center – new educational center for young people - project in building

Friends of Nature – ecotourism nature protection activities for primary and secondary school, weekly activities in summer time in the neighborhood of Timisoara

Young Naturalists Center nature protection activities for primary and secondary school, very good and long tradition activities in the city area, nursery activities for young people

Governmental Authorities: the Ministry of Waters and Environment Protection: County Inspectorate for Environmental Protection; the Ministry of Agriculture, Food and Forests: Regional Forest Inspectorate for Silviculture Regime, National Forest Administration -Timis Branch, Forest Research & Management Institute Timisoara – consulting –projects

Local Authorities: County Council, Mayor of Timisoara – the Green Areas Service is the main institution with consistent work and development projects for urban woods.

International organizations – are not involved yet, but “Centre Culturel Francais of Timisoara” has been interested in Timisoara’s “green areas”.

Media: TV – the media tool with the highest audience has periodically shown interest in the field of “urban woods”; Local Broadcasting – high influence – periodically involved ; Local Newspapers – no organized activity for urban woods; Internet - no website of Timisoara urban woods

5. Perception and general attitude of the public related to urban forests, parks and gardens (preliminary report of the Urban Woods and Parks Project in Timisoara/ICAS TM/2002 – Questionnaire on 100 subjects)

-there are not enough forests and parks in the area of Timisoara (59%)

-the condition of the Timisoara urban woods and parks is not satisfactory (general opinion)

-urban woods and parks have important beneficial influences on the climate and microclimate of the area (98%)

- urban woods and parks reduce the pollution in the city (91%)
- all the subjects consider that urban woods and parks are beautiful and have a beneficial influence on human health and spirit
- a new forest in the area is a good investment for the city and Timisoara must have a forest shelter all around (73%).
- forest could have an important role in the young generation education, but nowadays this potential is very little used (88%)
- 76% of the subjects are used to visiting parks and urban forests more than once a week.
- 61% of the subjects would like to live nearby forest. 39 % do not wish this because of the lack of personal security
- 75% of the subjects consider that “afforestation” of the Timisoara parking places (FOREST PARKing project proposal) is a beneficial action.
- 25% of the subjects are afraid that their cars could be affected during storms in FOREST PARKings, and the available space in parkings will be diminished.

6. Conclusions regarding urban woods and parks in Timisoara

- urban woods in Timisoara were planted as a necessity
- the development of urban woods and the general attitude of the people have been correlated with living standards and education
- urban woods and parks of Timisoara have developed in stages
 1. Initial stage : first urban forests were planted to protect people against of the bad smells of the nearby marsh.
 2. The city planning/rebuilding stage after Turkish invasion : first parks, first tree lines, education development.
 3. Industrial development stage before the First World War–urban forest and parks as filters against pollution and shelterbelts.

4. General development stage between the two World Wars – "green areas" extension on esthetic criteria: over 200ha in Timisoara (13,1 sqm/inhabitant), Timisoara one of the cleanest and most beautiful cities of Central and Eastern Europe, development of education
5. Industrial development after the Second World War stage: the "green areas" were reduced while the built-up areas expanded.
6. The transition stage starting in the early 1990ies: a somehow chaotic development of the city, "green areas" decreased (5,4 sqm/inhabitant), the number of cars doubled, new parking places, new green areas especially in the private areas.
7. The new approach stage after 1999: growing concern for our urban forests, urban woods extension activities in Timisoara



Timisoara Center view 1960

Timisoara Center view 2002

7. Urban Woods and parks extension in Timisoara

- the general development plan of the Timisoara city must include the extension of urban woods and parks
- management planning of the Timisoara urban woods and parks must contain ecological reconstruction works, phytosanitary works, functional and esthetic corrections, leisure facilities: cycling, horse-riding
- extending successful activities in Timisoara urban forests and promoting the best practice: the "Village Museum in the Timisoara urban forest" and the Forest Zoo, very accessible places, attract people, having both entertaining and educational aspects (satisfies curiosity-animals and need of relaxation-the old forest)
- establishing a forest shelter (rebirth of an old project) around the city connected to the existing forest parks and gardens of the city
- new forests in the area using "carbon sequestration projects"
- educational activities for young people : planting trees , using media and multimedia for promoting urban woods
- promoting the project FOREST PARKing – technical solutions for "afforestation" of existing and new parking places especially in the commercial and industrial areas



The "Village Museum" in the urban woods of Timisoara



The location of the Zoo in the urban woods of Timisoara



FOREST PARKing, a feasible project !?