

ANALYSIS OF THE GREEN AREAS WITH UNLIMITED ACCESS AND THEIR IMPACT ON THE POPULATION FROM IAȘI CITY

ANALIZA SPAȚIILOR VERZI CU ACCES NELIMITAT ȘI IMPACTUL ACESTORA ASUPRA POPULAȚIEI DIN MUNICIPIUL IAȘI

*SANDU Tatiana*¹, *TROFIN Alina-Elena*¹,
*PANTAZI Viorica*², *UNGUREANU Elena*¹
e-mail: tatiana_sandu69@yahoo.com

Abstract. *The current area of Iasi is approx. 3.770 ha of which the green system occupies approx. 826.80 ha (both green spaces within city limits and outside the city) and only 362.60 ha represent unlimited access green spaces [approx. 44% of the total area of green space in Iasi and only 9.61% of the area attributed to the green system (Inside and outside town)]. From the analysis made for the most representative unlimited access green spaces in Iasi, results the existence of a small number of green system elements and an uneven distribution with very different shares from a neighborhood to another, from one area to another. This situation is the result of a sequential urban planning approach, held in various periods of time without solutions correlation and without to promoting the idea of linking the town and its outskirts. The comparative study regarding accessibility, service range and radius of influence of the main types of unlimited access green spaces in Iasi, completed with the analysis performed using a conducted opinion survey (survey covers a total of ten items, each with 3 ÷ 15 possible answers), led to the deduction of deviations from the indicators used in assessing urban green spaces.*

Keywords: *unlimited access green spaces, Iași, population, assessment indicators.*

Rezumat. *Suprafața actuală a municipiului Iași este de cca. 3.770 ha din care sistemul verde ocupă cca. 826,80 ha (atât spații verzi intravilane cât și extravilane) și numai 362,60 ha reprezintă spațiile verzi cu acces nelimitat [cca. 44% din suprafața totală de spațiu verde din municipiul Iași și doar 9,61 % din suprafața destinată sistemului verde (intravilan și extravilan)]. Din analiza făcută a celor mai reprezentative spații verzi cu acces nelimitat din municipiul Iași în parte, rezultă existența unui număr restrâns de elemente de sistem verde și o repartitie neuniformă, cu ponderi foarte diferite de la un cartier la altul, de la o zonă la alta. Această situație este rezultatul unei abordări urbanistice secvențiale, desfășurată în diverse etape de timp, fără corelări de soluții și fără a se promova ideea de legătură între intravilan și extravilan. Studiul comparativ privind accesibilitatea, raza de deservire și raza de influență ca distanță a principalelor tipuri de spații verzi cu acces nelimitat din municipiul Iași, completat cu analiza realizată cu ajutorul sondajului de*

¹ University of Agricultural Sciences and Veterinary Medicine of Iași, Romania

² Iasi City Hall-S.C. Public Services S.A. Iasi, Romania

opinie efectuat (sondajul cuprinde un număr de zece itemi, fiecare cu 3 ÷ 15 variante de răspuns), au condus la deducerea unor abateri de la indicatorii utilizați în evaluarea spațiilor verzi urbane.

Cuvinte cheie: spații verzi cu acces nelimitat, Iași, populație, indicatori de evaluare.

INTRODUCTION

The current area of Iasi is approx. 3.770 ha of which the green system occupy about 826.80 ha (both green spaces within city limits and outside the city) and 362.60 ha represent the unlimited access green spaces (approx. 44% of the total area of green space in Iasi (Sandu *et. al.*, 2003).

According to the World Health Organization, the share of green space per inhabitant must be 50 square meters of green space

MATERIAL AND METHOD

Territory analysis of the green space with unlimited access from Iasi was carried out between May 2014 - May 2015 through the work of visual monitoring of the current status of these types of green areas in the municipality of Iasi, more complex observations being carried out in collaboration with Green Spaces department specialists of the Iasi City Hall, as part of a broader collaboration.

The used evaluation indicators and the analysis of urban green spaces at the local level, as indicated by the European Union, refers to:

a) Indicators concerning the urban green space availability: total surface green / blue, green areas and water share in the city, the area of green space / inhabitant etc. In some cases more detailed indicators are used to provide information about form, function types of green space (*Practical Evaluation Tools for Urban Sustainability – Green Blue citat de Chiriac D., et al., 2008*).

b) Indicators concerning the accessibility of green spaces, or their proximity, measured by the percentage of the population that is located less than 15 minutes' walk from the urban green areas or in other cases, at 150 m from home (*Proiectului „COST Action C11 – Green Structure and Urban Planning” integrat în al V-lea Program-cadru al Uniunii Europene cu privire la evoluția spațiilor verzi, citat de Chiriac, 2008*).

There was developed a comparative study on accessibility, range of service and range of influence as the distance of the main types of green spaces with unlimited access from Iași City and supplemented by the analysis performed using the poll conducted from March to May 2015 (the survey covers a number of ten items, each with 3 ÷ 15 answers) on a total of 523 respondents, which led to the deduction of deviations from the indicators used in assessing urban green spaces.

RESULTS AND DISCUSSIONS

The most representative unlimited access green spaces from Iași City fulfilling the surface indicator are shown in Figure 1. The main factor that determines the recreational value of the analyzed territory is its accessibility. In this respect it is considered the extent endowment of the territory with communication routes, their modernization, the frequency of transport links and the distance to them, ș.a. (Sandu, 2009).

It is considered that for Iasi, the potential areas for short-term recreation in green spaces within city limits have an accessibility contained in a timeframe between 6 ÷ 25 minutes, by public transportation, car and foot traffic.

Urban green space efficiency is assessed by the range of influence, as distance and range of influence, as a service. Usually these limits do not have a geometric shape, but have a varied path, which is determined in relation to the opportunities for access to the considered green space and are influenced by the existence of natural or artificial obstacles.

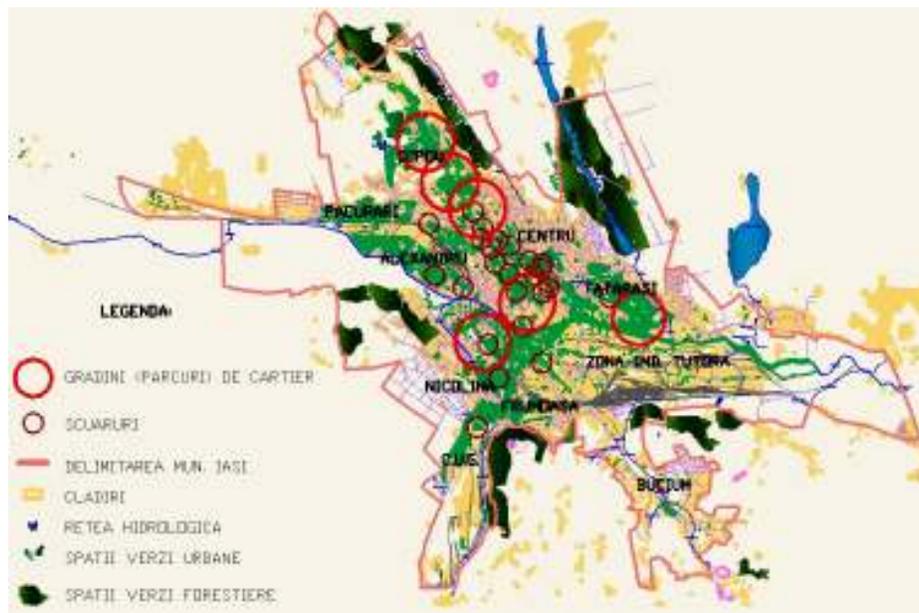


Fig.1 - Unlimited access green spaces distribution from Iași City (original)

The comparative analysis of the representative unlimited access green spaces in the municipality of Iasi (Table 1), tries to highlight the issues of accessibility for the urban green system elements and the degree of meeting the needs of the population of Iasi.

There is an obvious imbalance in terms of the geographical spread of these facilities, mostly located in areas Copou and center. Squares fall in rule as a share, but their distribution is not so satisfactory. The planted road strips are deficient by approx. 70 ha, which is quite serious because their implementation does not require such difficulties as creating new parks and gardens is. Data analysis shows that Iasi has a major deficit (approx. 216 ha) of areas occupied by parks and a deficit of approx. 90 ha in terms of neighborhood gardens.

It was noted that only for the areas inventoried in this study, the total number of visitors is estimated to be approx. 34.340 visitors, without the contribution of those from recreational areas outside the city.

Table 1

The degree of meeting the needs of population materialized in access paths and entries to the main unlimited access green spaces (according to norm no 112/1976)

Unlimited access green space	No. entries	From which:		No. access paths	Satisfies population
		Main entries	Secondary entries		
Gardens (parks) inside Iași					
Copou	4	1	3	4	yes
Expoziției	4	2	2	5	yes
Universității „Al. I. Cuza”	4	2	2	2	yes
Palas	9	3	6	2	yes
Tătărași	8	4	4	4	yes
Squares inside Iași					
Casa de Cultură a Studenților	4	1	3	2	yes
Piața Independenței	5	1	4	3	yes
Tg. Cucu-Biserica Bărboi	4	1	2	5	yes
Palatul Culturii	5	1	4	2	yes
Anastasiu Panu-Elena Doamna	5	2	3	3	yes
Teatrul Național	5	1	4	3	yes

From the map being observed in Figure 2 we can notice that there are surfaces out of range of service, resulting in the fact that planted areas are undersized and part of the population does not benefit from them (eg neighborhoods Alexandru cel Bun, Bucium, Frumoasa, Moara de Vânt entirely as well as the neighborhoods Nicolina, C.U.G., Obreja, Păcurari-partially).

Estimations have led to the conclusion that the percentage of population of Iasi, within the zone of influence as distance, attending at a time the unlimited access green spaces and recreational areas related to city is approx. 45,300 visitors (about 13% of the total population), 5-7% less than the current standards for a city of Iasi category (Sandu *et al*, 2009).

The survey (questionnaire) conducted in Iasi population comprises a set of questions on people's perceptions about current and past status of urban green spaces and the activities that it undertakes in the space of these facilities. To better relevance of the answers that closely match the situation met in the field, subjects were interviewed in all six areas of Iasi.

Most of the answers given by the respondents notified malfunctions recorded in the green areas from Iași City which are actually an accumulation of failures, errors and shortcomings, from each urbanistic unit (neighborhood) that is part of the municipality. If at the district level these disturbances may be somewhat dimmed by use of an adjacent green space unit facilities, overloading its function, at the municipal level, the phenomenon does not allow this kind of "transfer", the effects being found in living standards and quality of urban life.

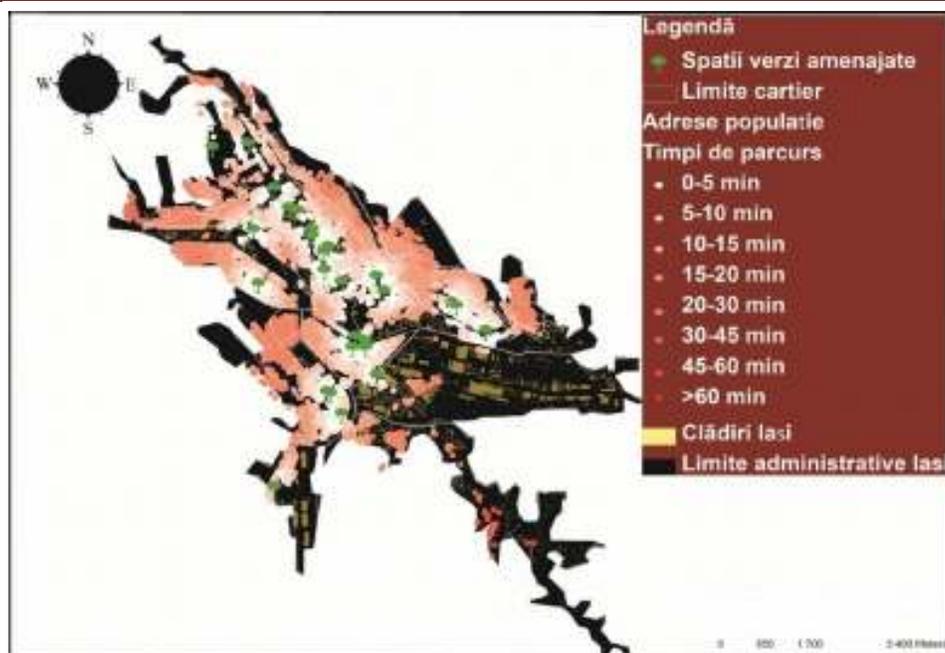


Fig. 2 - Distances / time to the nearest landscaped green space in Iasi (original)

CONCLUSIONS

The comparative study of accessibility, service range and range of influence as distance for the main types of unlimited access green spaces from Iași City and not the least the analysis conducted through the carried out surveys have allowed deducting the following conclusions:

- Deviations from the standards of unlimited access green spaces per capita:

- in the city of Iași no landscaped green space meets the conditions of a city park. Both city parks and neighborhood parks are lacking.
- the gardens under the administration of Iasi Department of Public Services account for 4% of the 15% regulated settings and are concentrated in study zone I (Copou-Center) and isolated in zones IV and V (respectively Tătărași and Nicolina neighborhoods).
- the existing squares represent approx. 45% of the total needed in the city, the deficit being about. 58 ha. Even if the squares are better represented, they are still missing in about half of the neighborhoods Bucium, Frumoasa, Galata, Moara de Vânt, Obreja, Țicău-Sărărie, Păcurari.
- street lining are a category of green spaces relatively well represented in city of Iasi, though there are areas (Moara de Vânt, Obreja) where they are missing or are underrepresented.

- according to norm 112/1973, the requirement for the Iasi city street plantations is approx. 70 ha. The deficit of around 32 ha is found particularly in neighborhoods Păcurari, Alexandru cel Bun, Galata, Socola, Nicolina Nicolina-CUG and in the gaps of existing alignments.

- the most representative alignments and strips are in Center and Copou area and yet they cover only approx. 55% of the necessary area.

- Deviations from accessibility standards:

- in the absence of town and neighborhood parks, whose functions are carried out by the gardens in the neighborhood, it appears that the most adequate is the case of Copou district, where there is a "chain" of gardens and parks (Copou, Expozitie) that meet the criteria of accessibility.

- to these is added the patch "Ghica Voda" and the gardens of Copou institutions which together constitute one of the greenest areas of a city in Romania.

- The functioning status of unlimited access green spaces:

- some of the green areas with unlimited access from Iași City do not have clear landscape and architectural compositions or do not have facilities to determine a specific profile.

- the wearing of the green spaces contribute to a non- corresponding urban aspect by: poor execution, lack of concern for the care and maintenance of green spaces, s.o.

- Non ensuring required environmental and aesthetic quality by the existence of poor neighborhoods, degradation of vegetation fund (scattered salt in winter, untreated disease and pest attacks stationing pollutants etc.) and environmental inappropriate use of plants from Iași City.

REFERENCES

1. Chiriac D., Humă Cristina, Stanciu Mariana, 2008 - *Spațiile verzi - o problemă a urbanizării actuale*, Revista Calitatea vieții, XX, nr. 3-4, București
3. Constantinescu A.C. și col. 1993- *Starea factorilor de mediu în județul Iași – privire critică*. Revista „Omul și mediul înconjurător”, Iași.
4. Sandu Tatiana, Hovîrneanu Cristi-Irina, Bernardis R., 2003 - *Studiu privind situația spațiilor verzi în municipiul Iași și posibilitățile de îmbunătățire a stării acestora*, Lucrări Științifice Vol. 46, Seria Horticultură, Iași.
5. Sandu Tatiana, Trofin A.E., 2009 - *Accesibilitatea și raza de deservire a celor mai semnificative spații verzi cu acces nelimitat din cadrul municipiului Iași*. Lucrări Științifice. Vol. 52, Seria Horticultură U.S.A.M.V. Iași.