



Interreg



EUROPEAN UNION

Danube Transnational Programme

URBforDAN

Citizen perceptions of urban forests and green space and need for participatory approaches

Dr. Silvija Krajter Ostoić
Croatian Forest Research Institute



HRZZ

Croatian Science
Foundation



Croatian Forest Research Institute
HRVATSKI ŠUMARSKI INSTITUT

Presentation outline

- Citizen perception study in SEE
- Participatory mapping of cultural ecosystem services



ELSEVIER

Contents lists available at [ScienceDirect](#)

Urban Forestry & Urban Greening

journal homepage: www.elsevier.com/locate/ufug



Original article

Citizens' perception of and satisfaction with urban forests and green space: Results from selected Southeast European cities



Silvija Krajter Ostoić^{a,*}, Cecil C. Konijnendijk van den Bosch^b, Dijana Vuletić^c,
Mirjana Stevanov^d, Ivana Živojinović^e, Senka Mutabdžija-Bećirović^f, Jelena Lazarević^g,
Biljana Stojanova^h, Doni Blagojevićⁱ, Makedonka Stojanovska^j, Radovan Nevenić^k,
Špela Pezdevšek Malovrh^l

^a Croatian Forest Research Institute, Department for International Scientific Cooperation in Southeast Europe, Zajčeva 28, 10000 Zagreb, Croatia

^b University of British Columbia, Department of Forest Resources Management, Forest Sciences Building, 2424 Main Mall, Vancouver, BC V6T 1Z4, Canada

^c Croatian Forest Research Institute, Cvjetno naselje 41, 10450 Jastrebarsko, Croatia

^d Institute for Lowland Forestry and Environment, Antona Čehova 13, 21000 Novi Sad, Serbia

^e European Forest Institute, Central-East and South-East European Regional Office (EFICEC-EFISEE), c/o University of Natural Resources and Life Sciences, Vienna, Feistmantelstrasse 4, A-1180 Vienna, Austria

^f Faculty of Forestry, University of Sarajevo, Zagrebačka 20, 71000 Sarajevo, Bosnia and Herzegovina

^g Biotechnical Faculty, University of Montenegro, Mihaila Lalića 1, 81000 Podgorica, Montenegro

^h PE Parks and Greenery, Bul. Ilinden 104, 1000 Skopje, Macedonia

ⁱ BARS-KOMPANI Ltd., Ratka Simatovića bb, 79100 Prijedor, Bosnia and Herzegovina

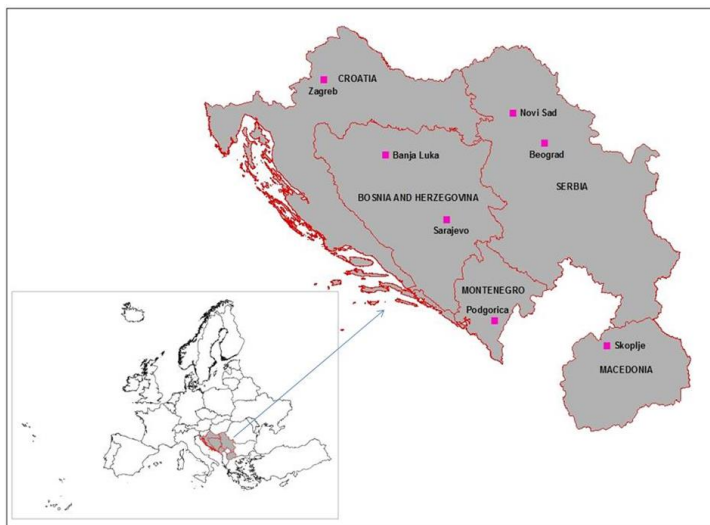
^j Faculty of Forestry, Ss. Cyril and Methodius University, Bul. Aleksandar Makedonski bb, 1000 Skopje, Macedonia

^k Institute of Forestry, Kneza Višeslava 3, 11030 Belgrade, Serbia

^l Biotechnical Faculty, University of Ljubljana, Department of Forestry and Renewable Forest Resources, Večna pot 83, 1000 Ljubljana, Slovenia

Citizen perception study in SEE

City	Zagreb	Sarajevo	Banja Luka	Belgrade	Novi Sad	Podgorica	Skopje
Population	790.017	310.301	181.418	1,690.433	299.294	187.085	506.926
Sample size	384	384	384	384	384	384	384
Response rate	60%	70.2%	88.5%	19.8%	66%	7%	94.6%
Number of city districts	17	4	9	16	13	2	10



Characteristics of respondents

Variables/ cities	Zagreb	Sarajevo	Banja Luka	Belgrade	Novi Sad	Podgorica	Skopje
Average age (years)	46	44	47	42	40	38	43
Education (predominating group)	High school (56.8%)	High school (67.7%)	High school (61.3%)	Higher education (57.8%)	Higher education (61.7%)	High school (54.9%)	Higher education (52.8%)
Household income (predominating group)	Between min. and average salary (44.0%)	More than double average s. (44.5%)	Between average and double average s. (46.6%)	Between min. and average s. (48.7%)	Between average and double average s. (32.3%)	Between average and double average s. (46.1%)	Between min. and average s. (56.5%)

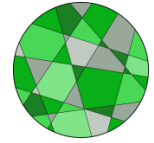
Overall perception of importance of UFGS, their amount, maintenance, management, and possible solutions

	Zagreb	Sarajevo	Banja Luka	Belgrade	Novi Sad	Podgorica	Skopje
	Mean						
Importance of UFGS for respondents	4.81	4.52	4.67	4.52	3.44	4.73	4.74
City X being a green city	3.74	2.22	4.04	3.45	3.48	2.74	2.94
Amount of UFGS is decreasing	3.70	3.84	4.49	3.35	3.34	4.41	4.04
Need for more UFGS	4.48	4.69	4.73	4.44	3.68	4.85	4.68
Satisfaction with maintenance and management							
Green space maintenance	3.43	3.15	2.67	3.13	3.78	2.96	3.49
Forest management	3.28	2.04	2.61	3.14		2.62	3.17
Assessment of possible solutions							
Education campaigns for citizens	4.72	4.93	4.87	4.66	3.63	4.49	4.61
More community wardens	4.33	4.15	4.15	3.96	3.65	4.50	4.30

Problems with UFGS as perceived by citizens

Zagreb	Sarajevo	Banja Luka	Belgrade	Novi Sad	Podgorica	Skopje	Rank
vandalism (4.40)	vandalism (4.86)	vandalism (4.70)	vandalism (4.60)	cars on green space (3.75)	vandalism (4.75)	vandalism (4.57)	1st
waste bins (4.20)	cars on green space (4.65)	bicycle paths (4.48)	litter (4.57)	vandalism (3.64)	litter (4.59)	litter (4.43)	2nd
bicycle paths (4.10)	litter (4.52)	waste bins (4.37)	waste bins (4.48)	noise (3.58)	benches (4.46)	cars on green space (4.42)	3rd
litter (4.08)	noise (4.50)	benches (4.27)	cars on green space (4.33)	illumination (3.54)	waste bins (4.45)	waste bins (4.31)	4th
other users (4.05)	waste bins (4.25)	litter (4.24)	other users (4.23)	bicycle paths (3.51)	cars on green space (4.31)	other users (4.25)	5th
benches (3.77)	bicycle paths (3.96)	other users (4.12)	illumination (4.11)	waste bins (3.48)	size (4.23)	illumination (4.21)	6th
size (3.48)	other users (3.80)	cars on green space (4.06)	benches (4.09)	connectivity (3.40)	illumination (4.20)	size (4.18)	7th
cars on green space (3.46)	benches (3.77)	size (4.01)	size (3.70)	litter (3.34)	bicycle paths (4.07)	bicycle paths (4.10)	8th
noise (3.39)	access (3.77)	tree species (3.89)	noise (3.65)	benches (3.26)	access (3.91)	access (4.03)	9th
illumination (3.32)	size (3.72)	noise (3.87)	access (3.64)	tree species (3.24)	other users (3.89)	noise (4.00)	10th
tree species (3.11)	connectivity (3.47)	access (3.74)	lack of bicycle paths (3.58)	other users (3.12)	noise (3.80)	benches (3.97)	11th
connectivity (2.98)	illumination (3.15)	connectivity (3.67)	tree species (3.53)		connectivity (3.40)	tree species (3.96)	12th
access (2.86)	tree species (2.83)	illumination (3.63)	connectivity (3.30)		tree species (3.03)	connectivity (3.85)	13th

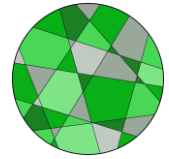
Participatory mapping of CES



- „Improving green infrastructure planning and management through participatory mapping of cultural ecosystem services (CULTUR-ES)” (2018-2022)
- Co-funded by Croatian Science Foundation (CSF)
- Installation project
- cca 110.000 EUR (of which CSF covers 85%)
- Team: Silvija Krajter Ostoić (PI),
Martina Kičić, Ana Marija Marin
(doctoral students)



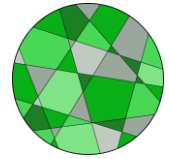
Project objectives



- To identify and explore variety of cultural ES and disservices from urban GI as perceived by the members of the public (in the city of Zagreb)
- To map cultural ES and disservices from urban GI (in the city of Zagreb)



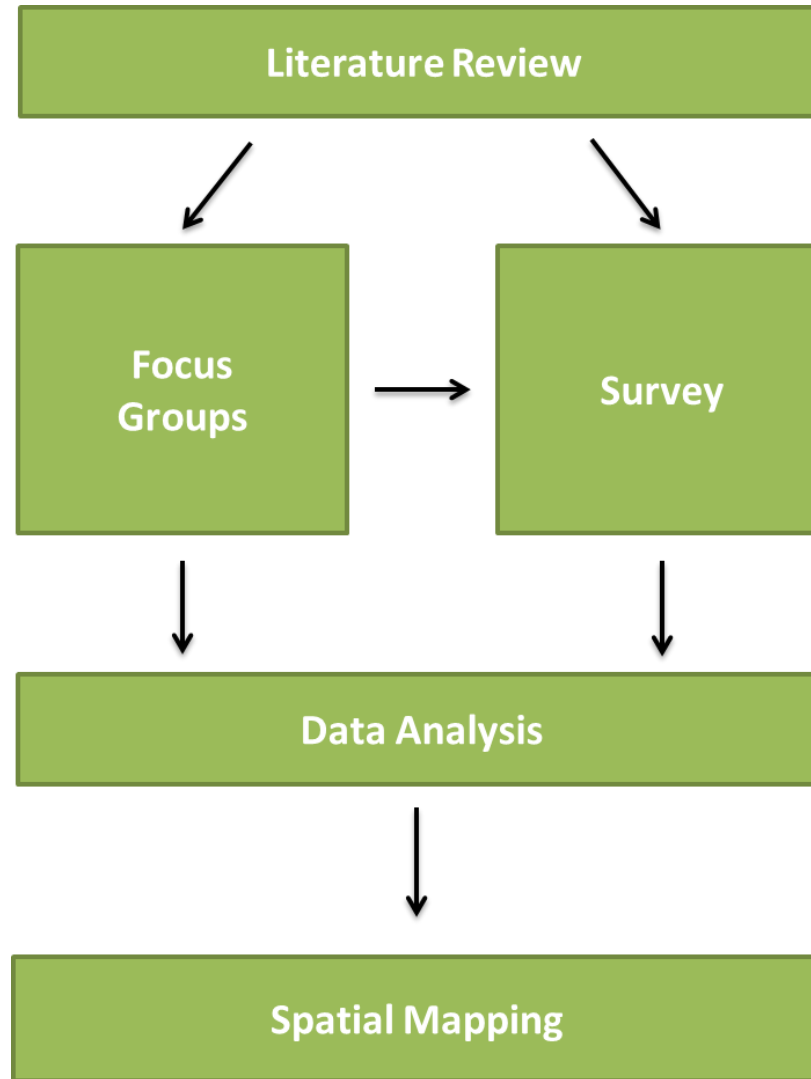
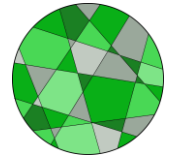
Research questions



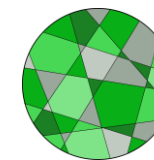
- RQ1: What cultural ES and disservices from urban GI do members of the public perceive and how it could be explained (e.g. socio-demographic factors)?
- RQ2: How these services and disservices are spatially distributed?
- RQ3: Whether and how their perception or use differs with regard to different types/elements of urban GI?



Methodology



Expected results



- Cultural ES and disservices from urban GI are identified, assessed, quantified and mapped
- Cartographic representations of individual and aggregated distribution of various cultural ES and disservices associated with urban GI
- Recommendations on how to include information on cultural ES and disservices into urban GI planning and management



Thank you for your attention!

Contact:
Silvija Krajer Ostoić
Croatian Forest Research Institute
silvijak@sumins.hr

