




**SELECTED MATERIAL FROM THE RESEARCH STUDY including the
CONDITION SURVEY OF THE EXISTING DRINKING WATER FOUNTAINS
IN SARAJEVO and CONCLUSIONS**

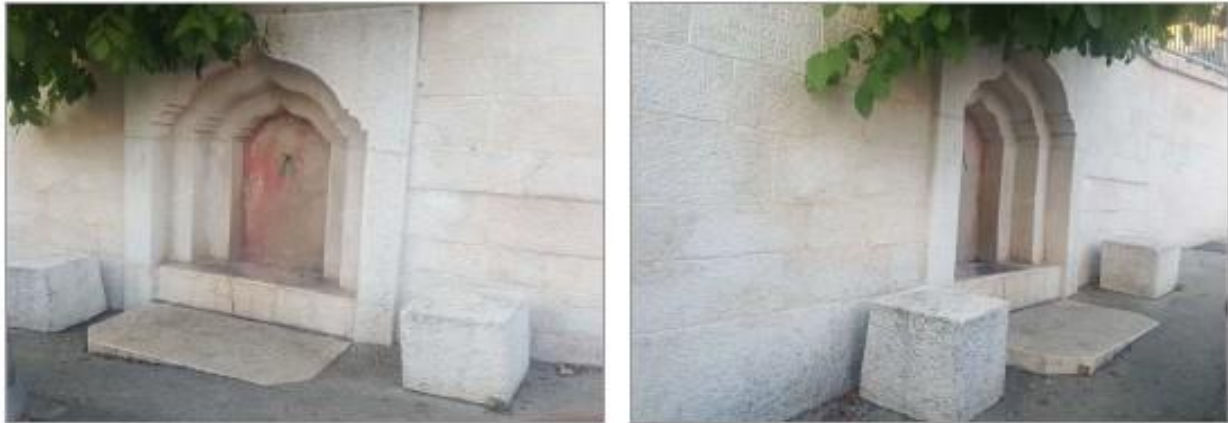
Jozic, Dino. Revitalisation of drinking fountains in the city of Sarajevo through the prism of climate change. Master Thesis. Sarajevo: International Burch University, 2023, pp.1-132

ID:1	NAZIV ČESME: "Begovac"		
FOTOGRAFIJA	Datum: 04.08.2022.		
			
LOKACIJA:	Općina Stari Grad Ul. Paje 45		
N: E:	Materijal: <input checked="" type="checkbox"/> prirodni kamen <input checked="" type="checkbox"/> beton <input type="checkbox"/> imitacija kamena <input type="checkbox"/> drvo <input type="checkbox"/>	Korito: <input checked="" type="checkbox"/> da <input type="checkbox"/> ne <input type="checkbox"/>	Način korištenja: <input type="checkbox"/> stalno teče <input checked="" type="checkbox"/> slavina <input type="checkbox"/> senzor <input type="checkbox"/>
VIK oznaka brojila:	Stanje: <input type="checkbox"/> zapušteno <input checked="" type="checkbox"/> nedovoljno održavano <input type="checkbox"/> održavano <input type="checkbox"/>	Funkcionalnost: <input type="checkbox"/> u funkciji <input checked="" type="checkbox"/> van funkcije <input type="checkbox"/> djelomično u funkciji	Ambijent: <input type="checkbox"/> zid objekta <input type="checkbox"/> sjecište <input type="checkbox"/> skver <input checked="" type="checkbox"/> saobraćajnica <input type="checkbox"/> park <input type="checkbox"/>
Zabilješka:	Mještani tvrde da je nakon pucanja cijevi trajno zatvorena česma. Tako stoji više godina. Stanovnici su istakli da bi bilo korisno da se popravi. Nisu znali da li je nekome posvećena česma.		
Mjere:	Popravka vodovodne instalacije i puštanje vode.		

ID:2	NAZIV ČESME: "Mahmutovac"		
FOTOGRAFIJA	Datum: 04.08.2022.		
			
LOKACIJA:	Općina Stari Grad Ul. Mahmutovac 128		
N: E:	Materijal: <input type="checkbox"/> prirodni kamen <input checked="" type="checkbox"/> beton <input type="checkbox"/> imitacija kamena <input type="checkbox"/> drvo <input type="checkbox"/>	Korito: <input type="checkbox"/> da <input checked="" type="checkbox"/> ne <input type="checkbox"/>	Način korištenja: <input type="checkbox"/> stalno teče <input checked="" type="checkbox"/> slavina <input type="checkbox"/> senzor <input type="checkbox"/>
VIK oznaka brojila:	Stanje: <input type="checkbox"/> zapušteno <input checked="" type="checkbox"/> nedovoljno održavano <input type="checkbox"/> održavano <input type="checkbox"/>	Funkcionalnost: <input checked="" type="checkbox"/> u funkciji <input type="checkbox"/> van funkcije <input type="checkbox"/> djelomično u funkciji	Ambijent: <input checked="" type="checkbox"/> zid objekta <input type="checkbox"/> sjecište <input type="checkbox"/> skver <input checked="" type="checkbox"/> saobraćajnica <input type="checkbox"/> park <input type="checkbox"/>
Zabilješka:	Mještani tvrde da je česma nastala 50-tih godina, na inicijativu odbornice Hanumice, kroz radnu akciju, u kojoj su učestvovali i mještani. Originalna česma je imala i korito koje je uklonjeno nakon rekonstrukcije saobraćajnice. Oni ističu da se šaht vodovoda nalazi u dvorištu privatne kuće i da se bespravno koristi.		
Mjere:	Rekonstrukcija, redovno održavanje i čišćenje. Izmjestiti šaht vodovoda na javnu površinu		


ID:3	NAZIV ČESME: "za groblje na Hridu"		
FOTOGRAFIJA	Datum: 04.08.2022.		
			
LOKACIJA:	Općina Stari Grad Ul. Kamenica PP 1		
N: E:	Materijal: <input checked="" type="checkbox"/> prirodni kamen <input type="checkbox"/> beton <input type="checkbox"/> imitacija kamena <input type="checkbox"/> drvo <input type="checkbox"/>	Korito: <input checked="" type="checkbox"/> da <input type="checkbox"/> ne <input type="checkbox"/>	Način korištenja: <input checked="" type="checkbox"/> stalno teče <input type="checkbox"/> slavina <input type="checkbox"/> senzor <input type="checkbox"/>
VIK oznaka brojila:	Stanje: <input type="checkbox"/> zapušteno <input type="checkbox"/> nedovoljno održavano <input checked="" type="checkbox"/> održavano <input type="checkbox"/>	Funkcionalnost: <input checked="" type="checkbox"/> u funkciji <input type="checkbox"/> van funkcije <input type="checkbox"/> djelomično u funkciji	Ambijent: <input type="checkbox"/> zid objekta <input type="checkbox"/> sjecište <input type="checkbox"/> skver <input type="checkbox"/> saobraćajnica <input type="checkbox"/> park <input checked="" type="checkbox"/> mezarje
Zabilješka:	Česma se nalazi u okviru mezarja na Hridu, i prema natpisu na česmi nastala je u povodu 118 godina postojanja preduzeća Vodovod i kanalizacija.		
Mjere:	Redovno održavanje i čišćenje.		

ID:5	NAZIV ČESME: "Hair česma"		
FOTOGRAFIJA	Datum: 05.08.2022.		
			
LOKACIJA:	Općina Centar	Ul. Patriotske lige PP 61	
N: E:	Materijal: <input checked="" type="checkbox"/> prirodni kamen (mermer) <input type="checkbox"/> beton <input type="checkbox"/> imitacija kamena <input type="checkbox"/> drvo	Korito: <input checked="" type="checkbox"/> da <input type="checkbox"/> ne <input type="checkbox"/>	Način korištenja: <input type="checkbox"/> stalno teče <input checked="" type="checkbox"/> slavina (6 kom) <input type="checkbox"/> senzor <input type="checkbox"/>
VIK oznaka brojila:	Stanje: <input type="checkbox"/> zapušteno <input checked="" type="checkbox"/> nedovoljno održavano <input type="checkbox"/> održavano <input type="checkbox"/>	Funkcionalnost: <input checked="" type="checkbox"/> u funkciji <input type="checkbox"/> van funkcije <input type="checkbox"/> djelomično u funkciji	Ambijent: <input type="checkbox"/> zid objekta <input type="checkbox"/> sjecište <input checked="" type="checkbox"/> skver <input checked="" type="checkbox"/> saobraćajnica <input type="checkbox"/> park <input type="checkbox"/>
Zabilješka:	1999 godine Općina Centar podigla česmu i spomen obilježje šehidima i palim borcima. Sveukupno uređenje neprimjereno ambijentu, prenaplašeno sa puno detalja koji narušavaju vizuelni identitet i ambijent (stubići, elementi rasvjete i sl.).		
Mjere:	Redizajn, redovno čišćenje i održavanje.		

ID:7	NAZIV ČESME: "Gornja Breka"		
FOTOGRAFIJA	Datum: 05.08.2022.		
			
LOKACIJA:	Općina Centar Ul. Gornja Breka PP 9		
N: E:	Materijal: <input checked="" type="checkbox"/> prirodni kamen (mermer) <input type="checkbox"/> beton <input type="checkbox"/> imitacija kamena <input type="checkbox"/> drvo	Korito: <input checked="" type="checkbox"/> da <input type="checkbox"/> ne <input type="checkbox"/>	Način korištenja: <input type="checkbox"/> stalno teče <input checked="" type="checkbox"/> slavina <input type="checkbox"/> senzor <input type="checkbox"/>
VIK oznaka brojila:	Stanje: <input type="checkbox"/> zapušteno <input type="checkbox"/> nedovoljno održavano <input checked="" type="checkbox"/> održavano <input type="checkbox"/>	Funkcionalnost: <input checked="" type="checkbox"/> u funkciji <input type="checkbox"/> van funkcije <input type="checkbox"/> djelomično u funkciji	Ambijent: <input type="checkbox"/> zid objekta <input type="checkbox"/> sjecište <input type="checkbox"/> skver <input checked="" type="checkbox"/> saobraćajnica <input type="checkbox"/> park
Zabilješka:	Hair česma braniocima Bosne i Hercegovine. Nalazi se pored saobraćajnice uklopljena u podzid. Tesko saglediva i dostupna zbog parkiranih automobila. Vrlo kvalitetno urađena i uklopljena u ambijent. Primjećena zaprljanost crvenom bojom (farbom).		
Mjere:	Uklanjanje crvene farbe sa česme, a potom redovno čišćenje i održavanje. Zabraniti parkiranje ispred česme.		

ID:10	NAZIV ČESME: "Sedrenik"		
FOTOGRAFIJA	Datum: 05.08.2022.		
			
LOKACIJA:	Općina Centar Ul. Sedrenik mali do br. 17		
N: E:	Materijal: <input checked="" type="checkbox"/> prirodni kamen <input checked="" type="checkbox"/> beton <input type="checkbox"/> imitacija kamena <input type="checkbox"/> drvo	Korito: <input checked="" type="checkbox"/> da <input type="checkbox"/> ne <input type="checkbox"/>	Način korištenja: <input type="checkbox"/> stalno teče <input checked="" type="checkbox"/> slavina (2 kom) <input type="checkbox"/> senzor <input type="checkbox"/>
VIK oznaka brojila:	Stanje: <input type="checkbox"/> zapušteno <input type="checkbox"/> nedovoljno održavano <input checked="" type="checkbox"/> održavano <input type="checkbox"/>	Funkcionalnost: <input checked="" type="checkbox"/> u funkciji <input type="checkbox"/> van funkcije <input type="checkbox"/> djelomično u funkciji	Ambijent: <input checked="" type="checkbox"/> zid objekta <input type="checkbox"/> sjecište <input type="checkbox"/> skver <input checked="" type="checkbox"/> saobraćajnica <input type="checkbox"/> park <input type="checkbox"/> mezarje
Zabilješka:	Česma sa dvije slavine, uklopljena u podzid individualnog stambenog objekta, u blizini saobraćajnice. U dijelu korita nedostaju čelične šipke.		
Mjere:	Djelimični popravak, a potom redovito čišćenje i održavanje.		

ID:14	NAZIV ČESME: "Kesa"		
FOTOGRAFIJA	Datum: 07.08. 2022.		
			
LOKACIJA:	Općina Centar Ul. Mandrina		
N: E:	Materijal: <input checked="" type="checkbox"/> prirodni kamen <input type="checkbox"/> beton <input type="checkbox"/> imitacija kamena <input type="checkbox"/> drvo	Korito: <input checked="" type="checkbox"/> da <input type="checkbox"/> ne <input type="checkbox"/>	Način korištenja: <input checked="" type="checkbox"/> stalno teče <input type="checkbox"/> slavina <input type="checkbox"/> senzor <input type="checkbox"/>
VIK oznaka brojila:	Stanje: <input type="checkbox"/> zapušteno <input checked="" type="checkbox"/> nedovoljno održavano <input type="checkbox"/> održavano <input type="checkbox"/>	Funkcionalnost: <input checked="" type="checkbox"/> u funkciji <input type="checkbox"/> van funkcije <input type="checkbox"/> djelomično u funkciji	Ambijent: <input checked="" type="checkbox"/> zid objekta <input type="checkbox"/> sjecište <input type="checkbox"/> skver <input checked="" type="checkbox"/> saobraćajnica <input type="checkbox"/> park <input type="checkbox"/> mezarje
Zabilješka:	Vrlo stara česma, koja po riječima stanara, datira iz 1500-te godine i predstavlja nacionalni spomenik. Naslonjena na zid individualnog stambenog objekta, sa vrlo lijepim vratima sa kojima čini skladnu kompoziciju uklopljenu u ambijent.		
Mjere:	Obzirom da se radi o vrlo staroj česmi, potrebna restauracija, eventualno stavljanje natpisa sa informacijama o česmi, a potom redovno održavanje i čišćenje.		

ID:17	NAZIV ČESME: "Fontana Rotary"		
FOTOGRAFIJA	Datum: 07.08. 2022.		
			
LOKACIJA:	Općina Centar Ul.Reisa Džemaludina Čauševića 1		
N: E:	Materijal: <input checked="" type="checkbox"/> prirodni kamen <input type="checkbox"/> beton <input type="checkbox"/> imitacija kamena <input type="checkbox"/> drvo	Korito: <input type="checkbox"/> da <input checked="" type="checkbox"/> ne <input type="checkbox"/>	Način korištenja: <input type="checkbox"/> stalno teče <input type="checkbox"/> slavina <input type="checkbox"/> senzor <input checked="" type="checkbox"/> vodoskok
VIK oznaka brojila:	Stanje: <input checked="" type="checkbox"/> zapušteno <input type="checkbox"/> nedovoljno održavano <input type="checkbox"/> održavano <input type="checkbox"/>	Funkcionalnost: <input type="checkbox"/> u funkciji <input checked="" type="checkbox"/> van funkcije <input type="checkbox"/> djelomično u funkciji	Ambijent: <input type="checkbox"/> zid objekta <input type="checkbox"/> sjecište <input checked="" type="checkbox"/> skver <input type="checkbox"/> saobraćajnica <input type="checkbox"/> park <input type="checkbox"/> mezarje
Zabilješka:	Fontana se nalazi u "parku Đuro Đaković", napravljena kao donacija Rotary kluba voljenom gradu, u saradnji sa još nekoliko firmi čija se imena nalaze ispisana na fontani.Relativno dobro uklopljena u ambijent. Fontana oštećena i nije u funkciji.		
Mjere:	Neophodan popravak fontane i stavljanje u funkciju.		

ID:19	NAZIV ČESME: "U parku iza Alipašine džamije"		
FOTOGRAFIJA	Datum: 07.08. 2022.		
			
LOKACIJA:	Općina Centar Ul. Alipašina		
N: E:	Materijal: <input checked="" type="checkbox"/> prirodni kamen <input type="checkbox"/> beton <input type="checkbox"/> imitacija kamena <input type="checkbox"/> drvo	Korito: <input type="checkbox"/> da <input checked="" type="checkbox"/> ne <input type="checkbox"/>	Način korištenja: <input type="checkbox"/> stalno teče <input type="checkbox"/> slavina <input type="checkbox"/> senzor <input checked="" type="checkbox"/> vodoskok
VIK oznaka brojila:	Stanje: <input type="checkbox"/> zapušteno <input checked="" type="checkbox"/> nedovoljno održavano <input type="checkbox"/> održavano <input type="checkbox"/>	Funkcionalnost: <input type="checkbox"/> u funkciji <input checked="" type="checkbox"/> van funkcije <input type="checkbox"/> djelomično u funkciji	Ambijent: <input type="checkbox"/> zid objekta <input type="checkbox"/> sjecište <input checked="" type="checkbox"/> skver <input type="checkbox"/> saobraćajnica <input type="checkbox"/> park <input type="checkbox"/> mezarje
Zabilješka:	Česma se nalazi u parku iza Alipašine džamije, vrlo skladno uklopljena u ambijent. Nije u funkciji.		
Mjere:	Neophodan popravak fontane i stavljanje u funkciju.		

ID:28	NAZIV ČESME:		
FOTOGRAFIJA	Datum: 08.08. 2022.		
			
LOKACIJA:	Općina Stari Grad Ul. Džanin sokak 1		
N: E:	Materijal: <input checked="" type="checkbox"/> prirodni kamen <input type="checkbox"/> beton <input type="checkbox"/> imitacija kamena <input type="checkbox"/> drvo	Korito: <input type="checkbox"/> da <input checked="" type="checkbox"/> ne <input type="checkbox"/>	Način korištenja: <input checked="" type="checkbox"/> stalno teče <input type="checkbox"/> slavina <input type="checkbox"/> senzor <input type="checkbox"/>
VIK oznaka brojila:	Stanje: <input checked="" type="checkbox"/> zapušteno <input type="checkbox"/> nedovoljno održavano <input type="checkbox"/> održavano <input type="checkbox"/>	Funkcionalnost: <input type="checkbox"/> u funkciji <input checked="" type="checkbox"/> van funkcije <input type="checkbox"/> djelomično u funkciji	Ambijent: <input type="checkbox"/> podzid džamije <input type="checkbox"/> sječište <input checked="" type="checkbox"/> skver <input checked="" type="checkbox"/> saobraćajnica <input type="checkbox"/> park <input type="checkbox"/> mezarje
Zabilješka:	Nije na spisku. Česma je u sklopu spomen obilježja šehidima i poginulim borcima Vratnik, uz objekat vatrogasnog društva. Cijeli kompleks u vrlo lošem stanju, prljav i zapušten. Nalazi se na vrlo frekventnom, sagledivom prostoru, sa velikom koncentracijom posjetilaca.		
Mjere:	Uklanjanje grafita, popravak česme, a potom redovno čišćenje i održavanje.		

7.1.Novi Grad Municipality

The Novi Grad Municipality of Sarajevo has, in a similar manner as MSG, at my request, through the previously mentioned Green Council BiH project, to provide a list of public drinking fountains located within the municipality (see **Appendix C**). The list consisted of 10 public drinking fountains was not presented in this report in a consistent manner due to the fact that it was compiled from several reports created by local communities (see pages 3-6 of **Appendix C**), and then approved and forwarded to Green Council through the authority of the deputy mayor of Novi Grad Municipality – Tajib Delalic in a table consisting 8 drinking fountains (see page 7 of **Appendix C**) which are presented in Table 2 below. Due to consistency of presentation, these drinking fountains were placed in Table 2 with information derivable from the retrieved reports. It is important to note that information in this table was not cross referenced with information from other sources.

Table 2: List of drinking fountains provided by Novi Grad Municipality (see page 7 of **Appendix C**)

Nr.	Name	Adress	Local community	Jurisdiction
1.	Javna cesma u ulici Safeta Hadzica br. 235	Safeta Hadzica br. 235	Svrakino Selo II	Unknown
2.	Hair cesma posvecena ratnom komandantu Ramizu Salcinu	Ferida Srnje kod br. 12	Svrakino Selo II	Unknown
3.	Javna cesma na spoju ulica Safeta Zajke i Ibrahima Pecevijske	Spoj ulica Safeta Zajke i Ibrahima Pecevijske	Naselje heroja Sokolje	Unknown
4.	Javna cesma ispred dvorista OS "Umihana Cuvidina"	Smaila Sikala	Alipasin Most I	Unknown
5.	Javna cesma izvoriste Studenac	Spoj ulica Ranovacka i Sehidska	Dobrosevici	Unknown
6.	Sehidska cesma u Ranovackoj ulici na Ranovaci	Spoj ulica Put djevojacke vode i Ranovacka	Dobrosevici	Unknown
7.	Hair cesma u Sehidskoj ulici	Sehidska	Dobrosevici	Unknown
8.	Hair cesma na Tjepovackom putu	Tjepovacki put	Dobrosevici	Unknown

p.94

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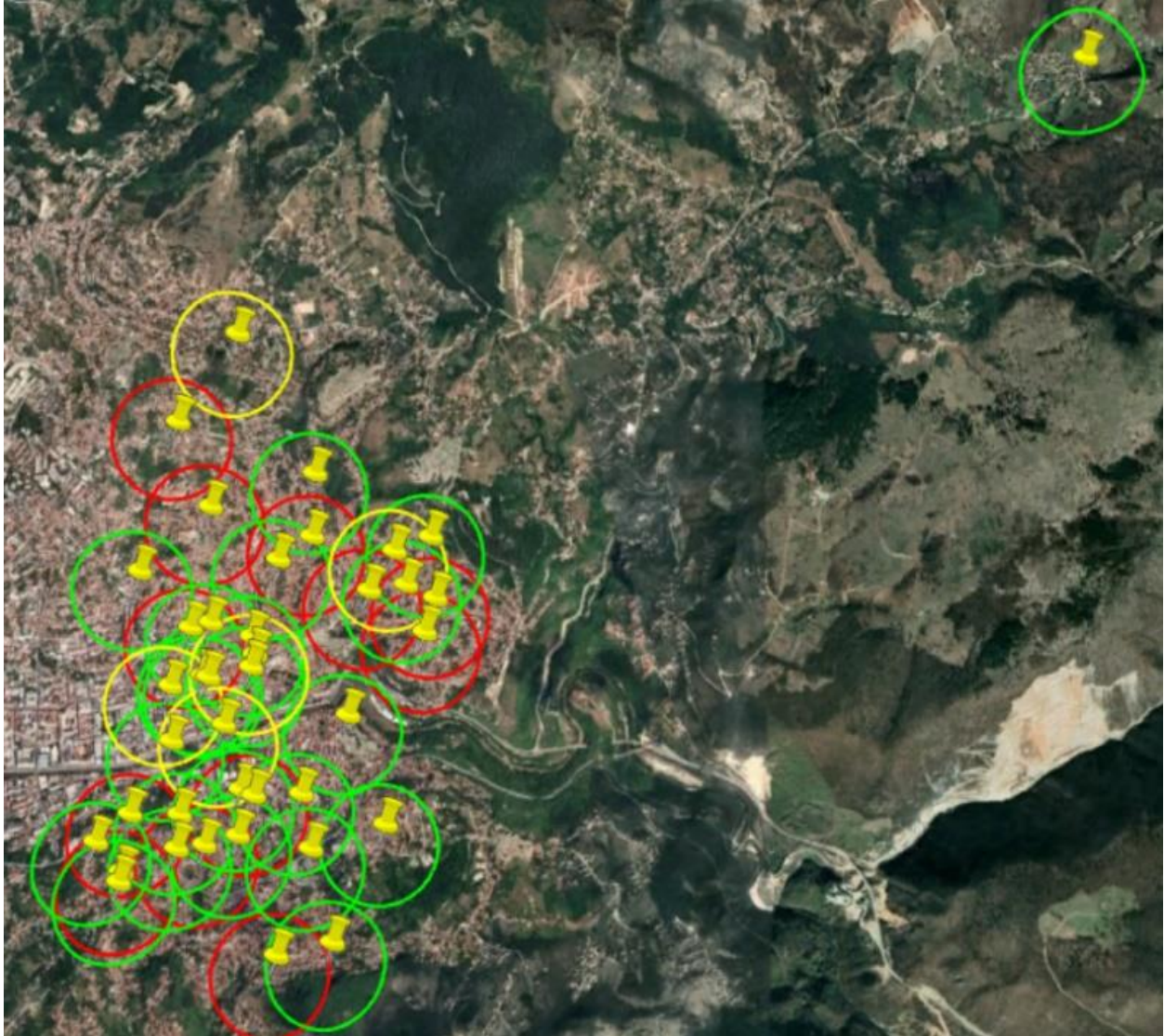


Figure 55: Impacts of drinking fountains in Municipality of Stari Grad
p.101

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7.1. Drinking fountains for public transport

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Figure 61: Perspective view of the public transport drinking fountain module
p.119

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7. CONCLUSIONS (p.124-26)

The field visits and reviewed literature indicate that the premise that public drinking fountains represent one of the important aspects of everyday life in Sarajevo. Due to the centuries long tradition of building them to provide free water for everyone to meet different needs such as drinking, cleaning, and ritual absolution, and the fact that considerable efforts were taken in the last century, most likely before that even, to preserve a substantial amount of them, these drinking fountains fall into the category of historical heritage with immense cultural value. Other than that they represent one of the most apparent public amenities which embody traditional and contemporary tendencies of developing a sustainable urban environment in the city.

However, the systematically conducted field survey of the public drinking fountains under jurisdiction of the city of Sarajevo revealed that an alarmingly large number of these valuable public assets are severely neglected, and a substantial number of them were out of function and thus failing to serve their purpose. This fact is true both for the preserved old public drinking fountains as well as for the ones built in the more recent years. It is also important to note that some of these drinking fountains represent a health risk because, due to the design feature that allows water to have physical contact with exterior surfaces of the fountain prior to its consumption, they highly increase the risk of infectious disease transmission, much more than the ones which do not have this design feature.

Due to the above mentioned importance and usefulness of the public drinking fountains in Sarajevo, there is a large potential for making a drinking fountain network which would promote a more sustainable way of water consumption culture in the city, and even wider. This could be achieved by promoting the health and environmental benefits of drinking water from these fountains as an alternative for bottled water, or other type of bottled beverages. One of the steps that should be taken is raising the collective public awareness of the problems that plastic bottles create in both the local and the ecosystem through promotion of educational content, organising educative workshops, etc. The other step which could also benefit the local communities in terms of economic development and that should be taken to advance the sustainable agenda in the field of water consumption in Sarajevo would be to promote reusable bottles in various ways and design sale places in the vicinity of the existing public drinking fountains in the city.

Perhaps the most important step that needs to be taken to achieve this agenda would be to regularly perform water quality checks at all the points of free drinking water provision - drinking fountains, thus helping regain the public thrust towards quality of water at public drinking fountains which is currently lost due to slack of maintenance. This last step needs to be taken in order to assure the public that the tap water from these drinking fountains is clean and safe to drink and make the information regarding maintenance available through QR codes available online and at the sites of the drinking fountains. However, in order to even start implementing these steps it is imperative that the dysfunctional drinking fountains are repaired and brought back in function, that the ones whose design features increase risks of infectious disease spreading are redesigned, and that all of them are regularly cleaned and better maintained. Besides the obvious reasons of achieving functionality, meeting sanitary requirements, and essentially creating pleasing environments, the mentioned measures also need to be implemented because the appearance, the safety aspect, and the functionality of the public drinking fountains represents a reflection of the society and the institutions that are responsible for the fountains' preservation. It is also recommended to control the water consumption at drinking fountains that can be modified (the ones that are not under protection as cultural heritage).

It is extremely important to note the potential of public drinking fountains to help reduce waste production caused by consumption of public drinking fountains. This research has proved that this potential is large through several analyses and design proposals.

During the process of promoting the sustainable water consumption agenda a parallel project should be developed in order to improve the visibility and accessibility of the public drinking fountains in Sarajevo. This project would include the creation of an interactive virtual platform where all the public drinking fountains would be made visible. This platform should be designed as an interactive map showing the fountains' locations and providing basic information about them, such as functionality of the fountain, when and by whom it was built, how many times and when it was repaired, etc. In order to make this online platform interactive, the platform should also provide a tool for its users to leave their impressions or comments regarding the fountains. Other than making the platform interactive, this tool should also help the city authorities to keep track of the state in which the fountains are found by visitors, potentially reducing the time and effort needed to repair the fountains that might be dysfunctional or vandalised. All in all, a platform like this would be beneficial both for the end users of the public drinking fountains and for the city authorities under whose jurisdiction the fountains are.

It is also necessary to legally protect the public drinking fountains that are of historical and cultural value for the drinking water supply tradition in Sarajevo. More efforts should be made by officials and public institutions to preserve, maintain, and promote these drinking fountains as important aspects of cultural heritage of the city. The city of Sarajevo could also use these drinking fountains as a means of branding itself as a tourist hotspot in the region.

This research has proven that a large number of existing drinking fountains show traces of dysfunction, lack of maintenance, and even vandalism and devastation; that the potential locations where new drinking fountains are most needed it throughout the more recently developed urban tissue (Municipality of Novo Sarajevo, Municipality of Novi Grad, etc.); and that public drinking fountains have great potential for plastic bottle waste reduction if the damaged ones are restored, new ones built, and quality of water they provide more sufficiently tracked and promoted.

Further research on this topic should be conducted by visiting and documenting all the public drinking fountains that are not included in the analysis part (Section 7) of this research, and there is certainly a large number of them. These fountains should then be included in the list of fountains under the jurisdiction of the city, and afterwards the same measures that should be applied to the fountains found in this research should also be applied to the new ones. It is also necessary for all the Municipalities of Sarajevo to be more proactive in the processes of maintenance of existing drinking fountains, and building new ones. Since a large number of the drinking fountains in Sarajevo are located in tourist and recreational zones, which indicates potential for branding Sarajevo as a tourist hotspot, it is recommended that a systematic register of drinking fountains is produced and regularly updated. Other than that, it is highly recommended to conduct public and transparent competitions for new drinking fountains designs in order to receive best results for the future.

