MIT MESÉL AZ INTERNET A ZÖLDFELÜLETEKRŐL?

Három budapesti közpark építésének online kommunikációja, és annak lehetséges szerepe a zöldinfrastruktúra-védelemben

WHAT DOES THE INTERNET TELL US ABOUT GREEN SPACES?

The virtual communication about three Budapest public park projects and its potential in green infrastructure protection

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ABSZTRAKT

A tanulmány három, 2022-ben átadott budapesti közpark építéséről szóló internetes írásokat vizsgálja. Célja annak feltérképezése, hogy milyen információk érhetők el a parkokról a nagyközönség számára, és hogyan jelennek meg ezek közt a parkok élő részei és a köztük-bennük zajló ökológiai folyamatok. A kiválasztott elsődleges (a megbízó, tervező vagy kivitelező internetes felületei) és másodlagos (tervezőkkel készült interjúk, szakmai méltatások) forrásokból származó szövegeket tartalomelemzés keretében kódoltuk. A tíz fő kódcsoport áttekintést nyújt a zöldfelület-fejlesztési projektek lényegi részeiről, összetevőiről. A különböző részek más-más hangsúllyal jelentek meg, de a *Tervezési szempontok* közé sorolt kódok aránya mindhárom projektnél hasonló. A "fenntarthatóság" szempontja mindegyik parknál megjelenik, amely arra utal, hogy a projektek nyilvános megítélésében döntő szerepet játszik. Azonban az egyes parkok esetében különböző mélységben kerül részletezésre, ami bizonyos szövegekben a valódi jelentés hiányát jelzi. Az egyik park esetében az alkotók rendszeresen posztoltak a megvalósításról. Ez ugyanaz a projekt, amellyel kapcsolatban a leginkább összetett módon jelennek meg az élő elemek és az ökológiai folyamatok közötti összefüggések. Ennek tükrében elmondható, hogy a közparkfejlesztési projektekről szóló tudatos és felelős online kommunikáció lehetőséget rejt a szemléletformálásra az adott parkról való tudásmegosztás által, és a területén zajló létfontosságú ökológiai folyamatok láthatóságának növelésével, s ezeken keresztül a zöldinfrastruktúra védelmében is szerepet játszhat.

Kulcsszavak: szabadtérfejlesztés, tartalomelemzés, kommunikáció, klímaadaptáció, láthatóság ◉

ABSTRACT

The study explores the online communication regarding three Budapest public parks opened in 2022, investigating what type of information is available about them to a wide audience and how vital ecological processes and living park elements are represented. Applying the method of content analysis, the selected texts from primary (online platforms related to client, designer, or contractor) and secondary (interviews with designers, professional praises) sources were coded. The ten main code groups give an overview of the major fields and components of green space development projects. Each field appears in a different degree of importance, but the proportion of *Design aspects* codes is similar for the three projects. Sustainability is mentioned in all three, suggesting that it is a key factor in the positive public perception of the project. However, the depth with which this is discussed varies, being merely an empty token in certain contexts. In the case of one project, there was regular communication about the project implementation on behalf of the creators. This is the same project that gives the most detailed information about living park elements and the ecological processes taking place between them. It is concluded that the conscious and responsible online communication about public green space projects has the potential to raise awareness by increasing the knowledge about and visibility of the essential ecosystem services provided by parks and green infrastructure in general, thereby contributing to their long-term protection.

Keywords: open space development, content analysis, communication, climate change adaptation, visibility

INTRODUCTION [1]

To be liveable, sustainable and responsive to climate change, urban areas need a network of green and blue spaces of high ecological value, which are able to perform over the long term. Literature in urban studies as well as in landscape architecture emphasises the importance of the built environment's resilience, which is partly determined by the quantity and quality of its green infrastructure network [2-6]. Urban green infrastructure, which also includes urban open spaces that provide ecosystem services, is the ecological foundation that serves as a vital backdrop for human life and activities [7] (p. 114). The ecological processes essential for the functioning of green infrastructure are mostly invisible. However, in order for green spaces to be and remain living and usable in the long term for (not only) human life, awareness among users and the general public of these natural processes, which are often overlooked, must be raised [8].

Public parks are elements of green infrastructure for public use and recreation, and offer an obvious setting for drawing people's attention to ecological benefits, because their location within the urban environment makes them accessible and popular to a large number of visitors. In addition to the ecological and aesthetic role they play, representing nature in the built environment, they are also a "tool for shaping social awareness" [9] (p. 9), [10-11].

News items about a public park under construction are generally aimed at local residents. Future park users are informed about activities underway or already completed. The news item reflects the aspects that the author wishes to draw attention to. In addition to the physical reality of the new public park, its creation (the project process) and the communication and publicity about it also provide an opportunity for those who are not professionals to gain new knowledge about the various benefits of green spaces, as well as the laws and characteristics of the non-human living world within the built environment. This knowledge can reveal the systemic importance of a public park beyond its individual utility value, which may enhance public awareness of parks, green spaces and open spaces in general, and contribute to the protection of already existing elements of the local green infrastructure.

The aim of this study is to examine the online, text-based communication about three recently opened public parks in Budapest, in order to explore ① which areas and details of the creation of the parks are presented to the public, and ② the extent to which living elements and natural processes appear in the available texts. Through the analysis and interpretation of the communication about real green spaces, we would like to draw conclusions about the highlighted environmental values of the green space projects, and the concepts associated with them. The aim of this paper is not to compare the selected parks in terms of their physical reality; instead, we wish to look at and reflect on what the publicly available online communications emphasise about them.

MATERIALS AND METHODS

Content analysis was chosen to examine the online communication about public green space projects. Content

Table 1: Project information about the three public parks
▸▸ **Table 2:** Sources of the texts analysed
▸▸ **Table 3:** Frequency and proportion of codes related to each green space project

	Bástya Park	**Pünkösdfürdő Park**	**Vizafogó Park**
Client	Municipality of Budapest District 5	Metropolitan Municipality of Budapest	Municipality of Budapest District 13
General designer	Város-Teampannon Kft.	BKM Zrt. FŐKERT Divízió	Objekt Tájépítész Iroda Kft.
Co-designer(s)	Salmus Kft., Jaima Kft., Kenese Mérnöki Iroda Kft., Gábor Ludányi sculptor and art restorer	Hamburg C Kft. (Gábor Kruppa, Szilvia Odry)	Archikon Architects
Contractor(s)	Penta Kft.	Kobold 2003 Kft. – Vackor Kft. Constortium and BKM Zrt. FŐKERT Divízió	Parkfenntartó Kft.
Area	1,728 m²	67,000 m²	10,000 m²
Year of design	2020-2021	2020-2021	2020-2021
Implementation	2021-2022	2021-2022	2021
Opened for public use	2022	2022	2022
Awards	Award of Construction Excellence (Építőipari Nívódíj) 2022 Complex Infrastructure Projects (Komplex infrastrukturális létesítmények)	Award of Landscape Architectural Excellence (Tájépítészeti Nívódíj) 2023 Urban Parks and Public Spaces (Városi parkok, közterek)	Budapest Award of Architectural Excellence (Budapest Építészeti Nívódíja) 2022
	Budapest Award of Architectural Excellence (Budapest Építészeti Nívódíja) 2023 Special Merit (dicséret)	National Green Cities Europe Award (Európa Zöld Városa Nemzeti Díj) 2023	FIABCI Hungary Prix d'Excellence 2023 Landscape Category (XXV. Magyar Ingatlanfejlesztési Nívódíj, Tájépítészeti kategória)
		FIABCI Hungary Prix d'Excellence 2023 (XXV. Magyar Ingatlanfejlesztési Nívódíj) Special Mention (különdíj)	National Green Cities Europe Award (Európa Zöld Városa Nemzeti Díj) 2022

	Number of primary sources		Number of secondary sources		Total number of analysed sources	
	Websites	**Texts**	**Websites**	**Texts**	**Websites**	**Texts**
Bástya Park	2	2	2	2	4	4
Pünkösdfürdő Park	4	33	0	0	4	33
Vizafogó Park	4	10	2	2	6	12
						N=49

Code groups		Bástya Park		Pünkösdfürdő Park		Vizafogó Park	
		Frequency (f)	**f/sum**	**Frequency (f)**	**f/sum**	**Frequency (f)**	**f/sum**
1. General project information	1.1. Project details	14	3%	13	4%	32	7%
	1.2. Quantities	18	4%	16	5%	55	11%
	1.3. Project partners	19	4%	14	5%	37	8%
2. Project-specific information	2.1. Design aspects	89	18%	56	19%	83	17%
	2.2. Users	19	4%	17	6%	13	3%
	2.3. Planting and wildlife	39	8%	44	15%	28	6%
	2.4. Ecological processes	25	5%	22	7%	16	3%
	2.5. Construction and hardscaping	117	24%	29	10%	128	27%
	2.6. Work organisation	27	6%	13	4%	31	6%
	2.7. Functions and use	116	24%	70	24%	57	12%
Sum total		**483**		**294**		**482**	

analysis is a method that takes texts as sources of data [12], which in this case represent various aspects of the green space projects, but cannot be equated with them. Although this method is widely used in communication science [13], we are not aware of any study that has employed it for the purpose of making statements related to publicity about green space or other landscape projects [14-15].

The online texts reach a wide non-professional audience, hence their potential to inform, educate and raise the awareness of people not yet familiar with the multiple values of public parks apart from their recreational use. Three Budapest public green spaces were selected for the analysis: Bástya Park (Budapest, District 5), Pünkösdfürdő Park (Budapest, District 3) and Vizafogó Park (Budapest, District 13), all of which were opened for public use during the spring of 2022 (Table 1). They were commissioned and designed by different clients and studios, but in the same social, environmental, political and economic context, including Covid-19 lockdowns, the start of the war in Ukraine, the political campaign for the national parliamentary elections in Hungary, and, not least, the global climate and biodiversity crisis. The parks were established in sites that had previously not been classified as public green areas. The achievements in the design and construction of all three parks were acknowledged by awards [16]. Having been opened at roughly the same time, all of them had equal chances of being represented in the online media in the spring of 2023 when data collection took place.

The available online communications dating from the period of implementation regarding each of the three green spaces were sought out and collected [17]. The texts were first organised according to their sources into groups of primary, secondary and tertiary sources (Table 2) [18]. The primary sources include texts published by any of the parties directly involved in the establishment of the parks (client, designer or contractor). The group of secondary sources contains interviews with designers or writings related to awards received. These complement the first group, illuminating certain professional aspects of the designs. The tertiary sources were mainly published as news items or programme guides, and were excluded from the analysis for the reason that most of them repeated details already stated by the primary sources or gave superficial information.
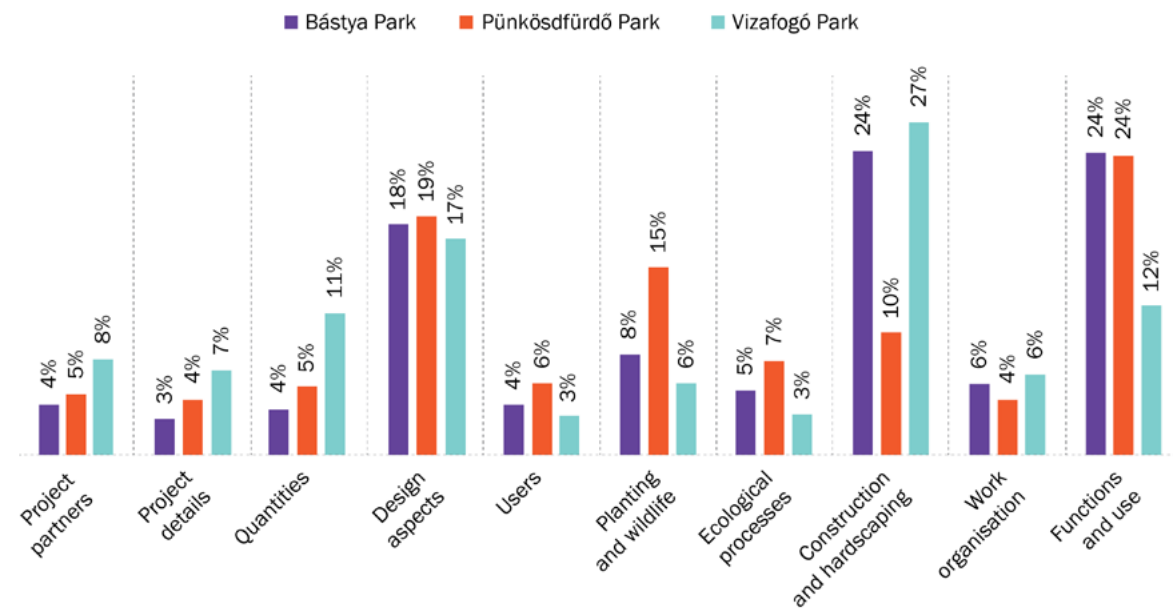
Texts (N=49) were coded after multiple careful readings wherein the various processes, factors and information related to the green space projects were identified, extracted and organised into categories. Category/code frequencies and code lists that differ for each project were compared, allowing a quantitative and qualitative analysis.

OVERALL RESULTS OF THE ANALYSIS

For all three parks, 10 main themes could be identified in the online texts, which can be divided into a general and a project-specific group. The *General project information* theme contains the descriptive details of the project, quantities related to it, and the partners involved. They allow the projects to be identified and located. The *Project-specific* theme includes design aspects, users, planting and wildlife, ecological processes, construction and hardscaping, work organisation, and functions and use. These categories provide an insight into the process of creating green open spaces, revealing topics that may not be evident for non-professionals (Table 3).

Initially, it was expected that in the case of public green infrastructure development projects like the ones examined in this study, living elements and natural

Figure 1: Relative frequencies of code categories compared between the three projects
▸▸ **Table 4:** Codes of *design aspects* for the three projects

Bástya Park		Pünkösdfürdő Park		Vizafogó Park	
Design aspects	**f**	**Design aspects**	**f**	**Design aspects**	**f**
multifunctionality	11	multifunctionality	8	sustainability, ecological and (micro-)climatic benefits	13
uses for user groups	11	economic soundness	7	large green area, many trees	10
increase green area	11	respond to community needs	5	land use change	8
space organisation and aesthetics	11	nature-friendliness	5	modern, smart, up-to-date	8
present cultural heritage	9	species and habitat diversity	5	safety, security	7
sustainability and environmental protection	7	novel, modern approach	5	unique aesthetic, harmony	7
adapt to and modify microclimate	6	ecological approach	4	fitting into local strategies	6
plant use and ecology	5	fitting in larger scale/local strategies	4	respond to community needs	6
novel approach	5	diverse user groups	4	human health and quality of life	5
economical operation	4	sustainability, resilience	3	recreational functions	3
site conditions	4	tidiness	3	outdoor furniture	3
security	2	environmental awareness	2	environmental awareness	2
playfulness	2	education	1	conform to EU norms	2
meet contemporary expectations	1			represent local identity	2
				economic soundness	1
	89		**56**		**83**

Legend
Use: Bástya f=33; 37%; Pünkösdfürdő f=17; 30%; Vizafogó f=24; 29%
Environmental aspects: Bástya f=29; 32%; Pünkösdfürdő f=23; 57%; Vizafogó f=39; 47%
Aesthetics: Bástya f=13; 16%; Pünkösdfürdő f=3; 5%; Vizafogó f=9; 11%
Novelty: Bástya f=6; 7%; Pünkösdfürdő f=5; 9%; Vizafogó f=8; 10%

processes would play the key role in the communication, since the ultimate aim is to improve the network that provides the flow of ecosystem services. Green space development in urban areas gives opportunities to employ the multiple benefits of vegetated areas to regulate climate, enhance biodiversity, absorb and retain storm water and improve air quality and ventilation, to name just a few, besides contributing to a liveable and healthy built environment [19-21]. These would have appeared in the following code groups: *Design aspects* (Table 3, 2.1), *Planting and wildlife* (Table 3, 2.3), and *Ecological processes* (Table 3, 2.4), which were to be ranked high by the relative number of mentions (i.e. the highest frequency relative to the total sum of codes). This expectation was only partly met, as the results show.

The code group *Design aspects* shows similar ratios of frequency for all three projects. *Planting and wildlife* and *Ecological processes,* in turn, score lower than *Design aspects,* with the Pünkösdfürdő project scoring the highest in both groups (Figure 1). Figure 1 also shows that the categories *Construction and hardscaping* and *Functions and use* have the highest average proportion in the texts. This suggests that the construction of hard structures may be considered more valuable parts of the projects than creating a living and functioning system of plants and wildlife, and the processes that take place between them. Another reason may be that since changes in hardscaping appear over a short time, they are easier to notice and might be a more obvious discussion topic, e.g. in blog

posts. The living parts, on the other hand, take time to fully establish, which is usually longer than the full length of the construction works, giving less opportunity to draw attention to changes and progress.

The high average proportion of the category *Functions and use* may be attributed to the fact that the main role of a public park is to be used by people. Publishing details about the various recreational features may be in order to ensure that the efforts of the creators are not in vain, and that the newly established place fulfils its role and becomes popular among citizens.

In what follows, we shall examine the *Design aspects* code group in detail, and also investigate what type of content each of the projects lists for the categories *Planting and wildlife* and *Ecological processes.*

Design aspects

Design aspects give a general insight into the goals of the client, the circumstances the designer needs to take care of, and further priorities of the project. This study is particularly interested in terms of how urban ecological aspects and responses to the climate and biodiversity crisis are reflected.

Most of the *Design aspects* codes could be further organised according to whether they relate to the use, the environmental effects or the aesthetic qualities of the parks, or the novelty of the design (Table 4). Use and aesthetic qualities are most frequently referred to in the case of Bástya Park. Environmental aspects, which seem

to be the most important design aspect on average, are given greatest prominence in the communications about Pünkösdfürdő Park and Vizafogó Park. Novelty, whether of design or solutions, is given less emphasis.

The environmental aspects of design have various components for each of the projects, as Table 4 demonstrates. A closer look will be taken at similarities and differences between them.

Communication about the design considerations of Pünkösdfürdő Park is especially rich in references to nature and ecology. A semi-natural environment ("[a place] as close to nature as possible", "nature-friendly concept") is represented as one diverse in species and habitats ("diverse native plant associations", "various habitats") and sustainable. Sustainability is referred to as the consequence of resilience to climate challenges. This establishes a relationship between the abstract (and mostly vague)

concept of sustainability and climate change, and the actual plant use choices (native and diverse). References to the design approach as being ecological also support this. The highlighting of strategies to fit in (e.g. Dezső Radó Plan [22]) creates a link between the scale of the site (park) and the local (neighbourhood and wider urban area).

In terms of design aspects, texts about Vizafogó lay the greatest emphasis on sustainability, to a far greater extent than in the other two projects. Here the concept of sustainability goes hand in hand with climate-friendliness and environmental protection, with phrases like "climate protection", "ecological functions" or "environmentally aware solutions". Since no further explanation or details are given about these, they can be regarded as empty tokens. Another frequently mentioned environmental aspect is the size of the green area and the high number of trees to be planted, both of which are a matter

of quantity. References to surface cover (unbuilt) and vegetation (herbaceous and canopy layer) gain meaning and significance through information about land use change (change from building plot to public park classification, which made the project possible) and fitting into local strategies of green space development (AngyalZÖLD 3.0 [23]). "Giving back" an area that had previously been, and was intended to be, built up, to "nature" and local people, is indeed rare and contrary to current trends of urban development. However, only two texts point out the importance of this phenomenon. Although the term "urban heat island" is mentioned, the relationship between land use, surface cover and urban climate is not dealt with in an informative way.

Among the environmental codes, increasing green areas is the most frequently cited among the Bástya project's design aspects. It is related to providing a solution for the lack of green spaces in the neighbourhood, and also demonstrates a quantitative approach, with an emphasis on providing larger green surfaces than building regulations prescribe for the site. Sustainability and environmental protection are another code group comprising phrases like "sustainability aspects", "support goals of climate protection", and "green and blue approach". As in the case of Vizafogó project, these phrases lack further detail. Making use of and modifying the microclimate of the site is a design aspect that gets unpacked more, transforming the issues of solar exposure and ventilation to tangible design objectives. Plant use and ecology also belong to this category, with references, for example, to built structures supporting plants, "diversity" and "ecological practice". It is interesting to note, however, that the temporal dimension of living trees and plants in general, and the fact that they grow and mature over time, is referred to as overly time consuming in connection with a considerable number of mature trees that had been planted ("[one does] not have to wait until the canopies of young trees develop and give shade", "enjoy the park without compromise"). Although the planting of mature trees can be necessary and justified, the hint at the instant comfort (also offered by consumer culture) gives the sense that time is not an important factor. This carries a message quite contradictory to that associated with long-term sustainability [24].

Concepts of sustainable development and sustainability, and the discourse about the role that landscape architecture (and therefore the creation of public parks) plays in them, date back several decades [25-31]. Thompson, when outlining the values underlying landscape architectural design, asserts that environmental sustainability does not only belong within the trio of "ecology, community and delight", but must also be linked with aspects of use and aesthetics, on the basis of ethical considerations [32]. The call for nominations for the Hungarian Award of Landscape Excellence also lays out expectations that projects should follow the principles of sustainability [33]. Roe argues that although the terms 'sustainability' or 'sustainable development' have lost meaning and significance due to overuse in several contexts, the concept they stand for cannot be ignored during the course of landscape architectural projects, whether newly created or restorative [34]. The overuse of the term 'sustainability' can be observed in both the Bástya and Vizafogó projects, as it invokes positive connotations without linking it to actions or design solutions. The repeated assertion that a green space project is 'sustainable' suggests that it plays a role in its positive public perception, but it might also impair project credibility.

Planting and wildlife, and Ecological processes

Although *Planting and wildlife* and *Ecological processes* both refer to the living aspects of a park, the codes that belong to these were separated in order to make a distinction between the domains of horticultural and natural aspects.

For both categories, the texts about the Pünkösdfürdő project give the highest frequencies (Figure 1). *Planting and wildlife* codes relate to activities of tree maintenance (protection, cutting down), and the planting of mature and other trees and shrubs. A wide range of vegetation layers is mentioned (the diversity of herbaceous plants, shrubs and canopy layer) along with functional plantings (shelterbelt, urban orchard, rain garden). With the introduction of the concept of habitat (creation), other living organisms in the micro and macro scales are also brought into focus. Gardening work implies a degree of necessary human intervention.

Ecological processes mentioned in relation to Pünkösdfürdő project include the time factor inherent in all landscape projects. Here, the seasonally changing aspect of plants and plant growth (circularity) is distinguished. Other codes include the explanation of the roles that functional plantings (shelterbelt, rain garden), and species

diversity play. Communication about the Pünkösdfürdő project takes the opportunity to educate the reader on urban ecology and the relationships between its components.

In the case of the Bástya project, *Planting and wildlife* codes can be organised in terms of vegetation supported by built structures (creepers on walls and pergolas, green roofs, "treadable garden", planters, rain garden), mentions of [species] diversity and three layers of vegetation (including mature trees). In the case of this project, codes like rainwater and water management (collection, storage and infiltration of rainwater, economical use of mains water), influencing the microclimate (evaporation, shading, green surfaces, and not obstructing natural ventilation by the planting design), and plant and planting characteristics (hydrophilia, age, diversity) belong to the *Ecological processes* group. Engineered/technical solutions are frequently mentioned in combination with codes of both categories, indicating human control.

The codes of *Planting and wildlife* for the Vizafogó project are connected to gardening works (species, planting and transplanting trees and other vegetation, soil preparation, green waste, mulching). This is the only project among the three in which soil appears as a separate code. The planting codes refer to a three-layered vegetation structure, as in the case of the other two projects. The *Ecological processes* codes are few in number and frequency, and refer to rainwater management, the effects of mulching, and, in a very low proportion, (micro-)climatic effects (pond) and land use change. Altogether, these codes reflect a traditional approach to the living elements of the park.

Besides the apparent differences in detail and depth, what is common for the communications about the three projects regarding their living aspects is mentioning layers of (more or less diverse) vegetation and rainwater management solutions within the respective parks. This suggests that at the time of the design and implementation of the projects, the 'ecological approach' meant that the design included at least a vertically layered plant use, and irrigation supported by the use of rainwater kept on site. These design choices are also recommended by the green infrastructure development concept of Budapest [6]. The time element is important here, because, as Stuart-Murray points out when writing about sustainable practice in landscape architecture, actual trends and focuses of practice change over time [35].

CONCLUSIONS

The content analysis of the online texts about the three public parks has shown the following:

- The 10 identified topics cover the most important aspects of a green space development project.
- The frequency and proportion that each topic is dealt with varies depending on the project. Design aspects is the only category that has a similar share in the online texts about the selected projects.
- Environmental aspects of design include responses to microclimate and climate change, along with less tangible references to sustainability. Overuse of the term 'sustainability' in communication might impair project credibility.
- The codes related to *Planting and wildlife* and *Ecological processes* in the case of Pünkösdfürdő Park demonstrate the potential of communication about green space projects to convey messages about and create visibility for complex urban ecological phenomena and design choices to a non-professional audience. This may be a tool of protecting urban green infrastructure elements, if carried out with consciousness and responsibility.

The implemented public park may reflect the scientific achievements of landscape architecture only partially or in fragments. The way in which information is conveyed to the general public about a green space project has the potential to educate a wide audience about landscape architecture [36], problems of urbanisation, and the local impacts of biodiversity loss and climate change. The communication about a project also offers space to discuss solution alternatives and their applicability at a given site. Clarity about the limitations of solutions also improves the public understanding of the particular professional challenge, and may improve project credibility by preventing miscommunication.

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