

# Open Spaces and Elements Designed to the Landscape of Hortobágy National Park

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**Abstract.** The project arises from problems found in the poor dissemination of information, low identity with the surrounding, limited resistance and deficient quality of materials, impossibility of non-Hungarian speakers to access the information, difficulty of recognition and identification of the places by the visitors and the inexistence of a common morphologic language in the elements and spaces for the network of National Parks including for the Hortobágy case. From the academy, the proposal is planned to be inserted within the project of renewal and enhancement of the network of National Parks of Hungary. The project's methodological framework is composed of a nonlinear axis, which covers different levels of the process; Beginning with related worldwide cases data collection and literature review as well as Hungarian National Parks data, then data analysis and evaluation to identify the landscape character, the establishment of design parameters, experimentation into the study area, design alternatives formulation, assessment, and qualifying, finally design in detail and validation of the results.

The paper seeks to show a unique system of elements and spaces, designed in the framed of the Hungarian National Parks, in this study case, specifically for the Hortobágy National Park located at east Hungary materialized in a group of pre-set areas, outdoor furniture and signalling elements that fit harmoniously into the landscape. Thus, integrating concepts such as landscape character, local identity, sustainability, high technology, and universality result in a proposal of high-quality design for the improvement of the competitiveness and to enhance people's experience in the Hortobágy NP and the enjoyment of its landscape through the formulation of a viable and comprehensive design proposal.

**Key Words:** National Parks, Open Space Furniture, Landscape Character, Landscape Experiences

## Introduction

Despite the relatively well-developed infrastructure and the great tourist potential of the network of Hungarian National Parks including Hortobágy National Park, nowadays there is a weak system of furniture, signaling, and lighting that does not fulfill the necessary requirements to satisfy a growing, international and diversified tourist activity [3].

A comprehensive and standardized system of these elements is fundamental for the proper enjoyment of the tourist experience within the parks and that is why today, is easy to find as a worldwide trend; the high efforts, and investment in the field of furniture and signaling design, as an indispensable part in the development of landscape design because it directly influences the experience of the tourist and locals within the national parks. These types of elements beyond the function can become symbols, landscape marks and even part of the identity of a place, hence the great importance of an accurate proposal and based on the particularities of each site, likewise with the inclusion of concepts such as universality, usability, readability, sustainability, feasibility, etc. that create a sense of identity and belonging in a place [5; 14]. In any case, the absence or weak presence of these elements has been gradually promoting the development of anomie socialization

forms in which is easy to find a de-structuring of the identity and collective representations, segregation, and social hierarchy of the population, deficit of information and difficulty of access to local cultures and permanent obsolescence of traditions [7].

The interactions of tourists and locals (users) with each other and with the artificial elements placed in those spaces and the type of meanings of this process and the type of landscape marks (such as furnishing, equipment, norms, signs, their spatial disposition, their prioritization over time, their contextual relevance, their ability to produce collective identity, their quality, etc) become fundamental factors in the regulation of citizen behavior and defines its experience [14] (Fig. 1). This shows that the rhythm of construction of the equipment, its location, functional and identity characteristics and the operation and maintenance processes have not responded to the dynamism experienced by the tourist boom and to the green development of the regions [13]. The equipment destined to represent the government is poor and deficient, increasing the lack of ownership of the national and local entities in the National Parks. Promoting statal presence depends on the correct supply of functional and cultural furnishings and infrastructure [13].

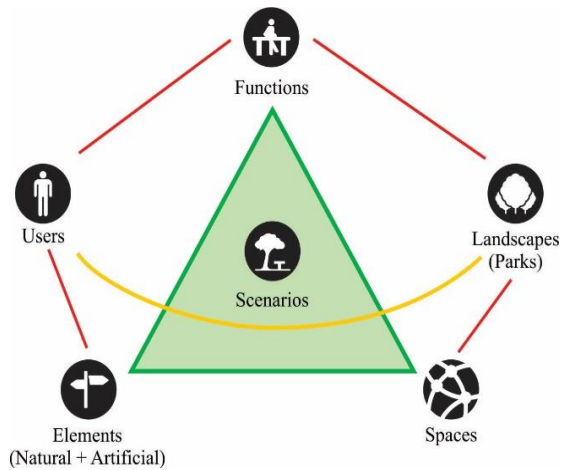


Fig. 1. Interactions [created by the author]

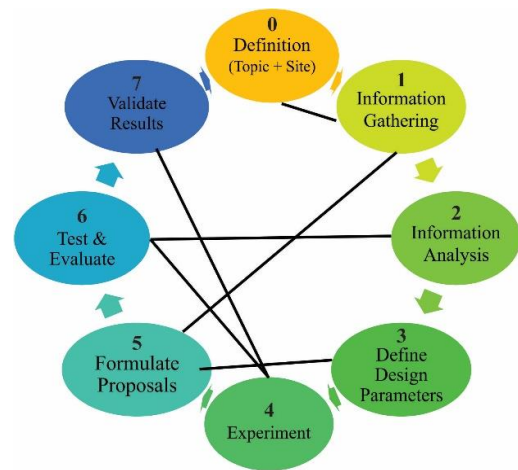


Fig. 3. Methodology [created by the author]

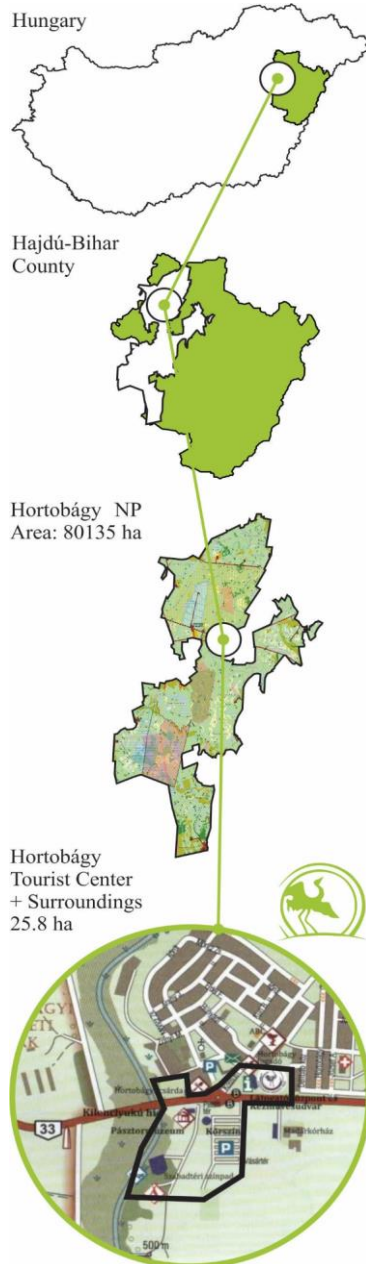


Fig. 2. Hortobágy NP Location [created by the author]

The project seeks to enhance the experience of people in the Hortobágy National Park through formulating a proposal of viable and integral design of open spaces and artificial elements into and for the landscape that allows better interaction with the natural landscape.

### Material and Methods

Hortobágy National Park is 800 square kilometers, located in eastern Hungary filled with folklore and cultural history. The park, which forms part of the Great Plain of Hungary, has been listed as a World Heritage Site [6; 8]. It is situated in an area where a unique shepherding culture that has evolved over many centuries, manifesting itself in distinctive traditional styles of clothing and architecture, and the tending of particular types of animals that are not found anywhere else [4]. The Hortobágy region is the largest continuous natural grassland in Europe, and the National Park was established in 1973 as the country's largest protected area. Hortobágy has outstanding natural features, maintaining great biological diversity with respect to species and habitats [12]. It is a unique example of the harmonious coexistence of people and nature based on the careful use of the land [11] (Fig. 2).

The cultural landscape of the Puszta represents the highest scenic quality, with pleasing and dramatic patterns and combinations of landscape features which give it a distinctive character, including aesthetic qualities and topographic and visual unity [1; 10]. The unbroken horizon is only occasionally disrupted by trees, groves, settlements or linear establishments. Human-made elements fit harmoniously into this landscape and sustainable land-use practices have contributed to the conservation of a diversity of species and biotopes and the maintenance of the landscape [15].

TABLE 1

Table of Requirements [created by the author]

<b>Requirement (Must comply)</b>	<b>Description (What)</b>	<b>Determinant (How)</b>
1. Resistance	<ul style="list-style-type: none"> <li>▪ Use local and natural materials. (Wood-Stone)</li> <li>▪ Materials who resist the natural conditions.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use native wood, stone and, concrete. (Oak, Poplar / Beech / Elm / Reed)</li> <li>▪ Use a roof or a cover.</li> </ul>
2. Usability / Readability	<ul style="list-style-type: none"> <li>▪ Has to be easy to read and understand.</li> <li>▪ Has to be easy to identify.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of universal and international symbols and pictograms for standard agreements.</li> <li>▪ Use information about distances and times.</li> <li>▪ Use at least two languages.</li> <li>▪ Use high contrast for reading.</li> </ul>
3. Cost	<ul style="list-style-type: none"> <li>▪ No more expensive than the current elements.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Straight lines and soft curves.</li> <li>▪ Few materials and fabric processes.</li> <li>▪ Not expensive materials.</li> <li>▪ Simple shapes mean fewer costs.</li> </ul>
4. Identity	<ul style="list-style-type: none"> <li>▪ Take advance of the local identity (Activities, Economy, Materials, Shapes, etc.)</li> <li>▪ Use current icon elements of each park.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use local materials.</li> <li>▪ Use logos and branding of the NP network.</li> <li>▪ Use one unique logo and color for each NP.</li> </ul>
5. Maintenance	<ul style="list-style-type: none"> <li>▪ Design for low maintenance. (Strong Materials)</li> <li>▪ Easy to clean. (Trash bins)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Not use of trash bags.</li> <li>▪ Use of cover or roof.</li> <li>▪ Easy to clean.</li> </ul>
6. Aesthetic Value	<ul style="list-style-type: none"> <li>▪ Has to be visually attractive and universal.</li> <li>▪ Use the imaginary of people of natural parks.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Simple shapes.</li> <li>▪ No complexity.</li> </ul>

The methodological framework is composed of a nonlinear axis, which covers different levels of the process [2]; Beginning with the data collection and literature review of worldwide cases as well as of the Hungarian national parks, then analysis of collected information and identify the landscape character, establishment of design parameters, experimentation in the place with real materials and resources, formulate design proposals, then assess and qualify the proposals, and finally design in detail and validate the results (Fig. 3).

The data collection consisted of grouping and gathering information from different sources (digital media, brochures, publications, papers and physical visits to the national parks). At this level, the collected information was analyzed and the relevance of this was verified. In addition, within this analysis, the existing site (Hortobágy NP) was studied (Landscape character, symbology, geography, topography, flora, local materials, structure, functions, hierarchy, etc) in addition studying the existing typologies of furniture using the following criteria; aesthetic value, maintenance costs, ease of use, the resistance of their materials and identity. These serve as an objective frame of reference for the correct evaluation of the elements giving them a grade from 1 (None compliance) to 5

(Total compliance). The analysis of case studies abroad (Yosemite-United States, Monte Perdido-Spain, Tayrona-Colombia, and Phi Phi-Thailand) was made using the same criteria and assessment. The design parameters of both the objects and the space between those that stood out were proposed; production processes, evaluation methods, levels of resistance and security, levels of adaptability and identity with the site.

At this level, design alternatives were proposed through various methods such as; brainstorming, establishing design concepts and methodologies or adapting existing ones, it was primordial the use of native flora, local materials and common morphology as design requirements. The verification of proposals was made through fulfilling requirements (must comply); Resistance, usability, costs, identity, maintenance, and aesthetic value. Table 1 shows how the requirement can be accomplished. The validation of the results, comparing and weighing them: at this level all the checks are validated by comparing them with each other and with other successful cases abroad, measuring the degree of user satisfaction, finally, all the steps are fed back to make the integral evaluation of the project.

## Results and Discussion

The development of the project includes three intervention scales in the space, each with different complexities. The largest scale of intervention is the conceptual design of the entrance area to the Hortobágy National Park (approximately 25.8 Ha), in which all the scenarios would be located and serve as the implementation framework for the scenarios. This conceptual design contemplates the redistribution of spaces and functions. The second intervention scale is medium-sized, this would be the design of the five scenarios in detail, each with different functions, configurations and elements and finally the small-scale intervention that is defined by the design in detail of all the elements that would be available within the different scenarios (16 different types of elements).

The spatial analysis of hierarchy and uses showed that there are five patterns/kinds of open spaces prone to be intervened and where the elements can be placed in order of functions and users that can be found in the network of Hungary National Parks. These implementation spaces are the fundamental axes of the project, they have particular characteristics of; uses, users, functions, elements and vegetation (Fig. 4). Into the master plan can be differentiated five kinds of scenarios; the first open space typology is the “Visitor Center Scenario” that consists of the area in front of the Tourist Center, covering an area of 60 m<sup>2</sup>, designed to fulfill the requirements of all type of users. The main functions are to provide a space to sit and wait, give information about the park, provide bike parking and enhance the aesthetic of the visitor’s center outer garden using nine types of elements. The vegetation

proposed to this scenario includes native flora as *Calystegia sepium* (Hedge Bindweed), *Leucosium aestivum* and *Fraxinus angustifolia* (Fig. 5).

The second typology is the “Park Gate Scenario” that consists of the open space design of the vehicle access area where is located the round point in 33 National Road. It covers an area of 10 m<sup>2</sup>, the main purpose is to indicate the visitors the main entrance of the park and shows a morphological connection with the surrounding, using local materials and analogical shapes referenced to the local architecture. The vegetation proposed is *Pulsatilla pratensis* (Pasqueflower), *Iris humilis* (Sand Iris) (Fig. 6).

The “Entrance Scenario” is the open space located in the park’s entry, just beside the parking lot. Encompass an area of 60 m<sup>2</sup>, projected to provide functions to all types of users. The main functions are to provide a space to sit and wait, giving information about the park, locate the tourists into the park and their main touristic spots, using nine types of elements. The flora proposed is *Calystegia sepium* (Hedge Bindweed), *Leucosium aestivum* and *Fraxinus angustifolia* (Ash) (Fig. 7).

For the main touristic spots, I proposed the “Contemplation Scenario” that consists of an open space designed to enhance the enjoyment of the landscape in the hotspots as the river shore and the dock, covering an area of 30 m<sup>2</sup>. The uses are to provide a space to sit and enjoy the view, give information about the place, and mainly enhance the landscape contemplation. The vegetation proposed to this scenario includes native flora as *Typha angustifolia* (Lesser bulrush), *Phragmites australis* (Reed) (Fig. 8).

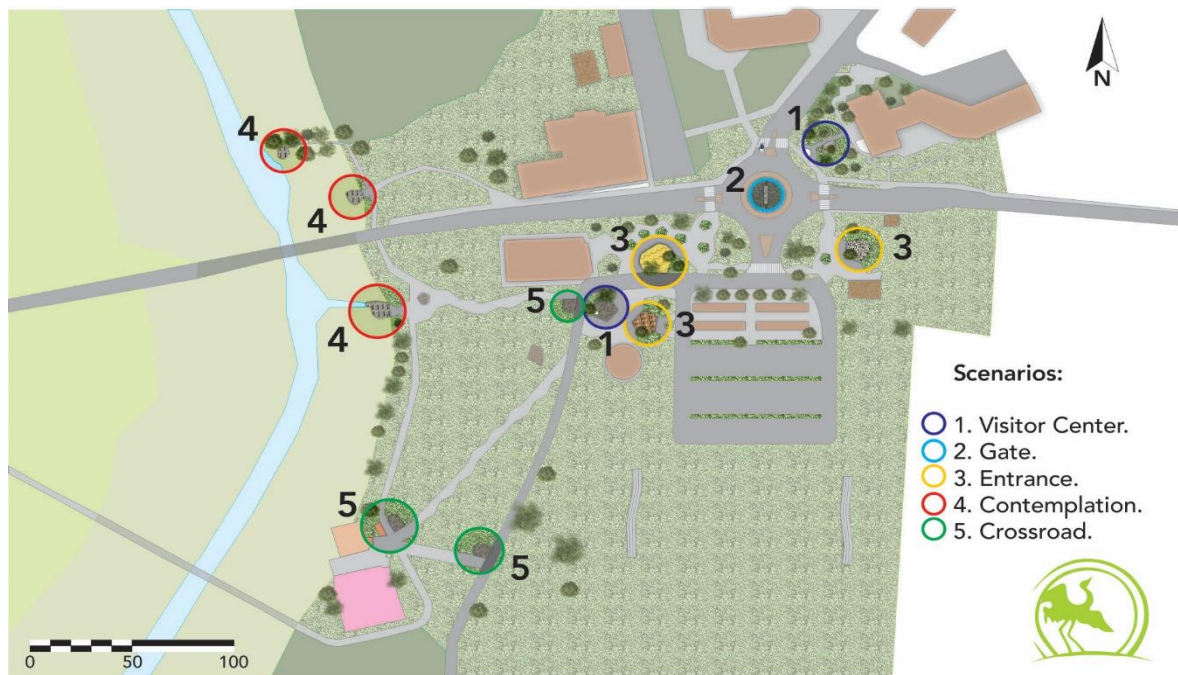


Fig. 4. Master Plan. Scenarios location [created by the author]



Fig. 5. Visitor center scenario [created by the author]

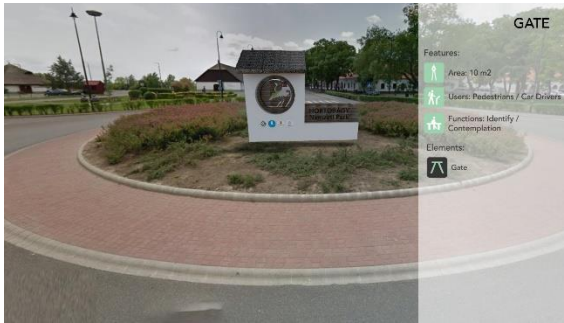


Fig. 6. Park gate scenario [created by the author]



Fig. 7. Entrance scenario [created by the author]



Fig. 8. Contemplation scenario [created by the author]



Fig. 9. Crossroad scenario [created by the author]

Finally, the last typology is the “Crossroad Scenario” projected to the areas where two or more paths crossed. It covers an area of 60 m<sup>2</sup>, designed to provide a space to sit and rest, giving information about the site and locate spatially the user, using four types of elements (Fig. 9). The proposal was designed based on the landscape character of the National Park, using a table of parameters and requirements to fulfill including, morphology, topography, flora, local materials, production, usability, and environmental conditions.

## Conclusions

The project evidenced that the natural landscape in the National Parks is almost already defined and that means that rural areas need a different approach than urban areas, this different approach makes that there is not necessarily a strong physical modification of the landscape to preserve the natural landscape of the parks as much as possible and enhance the perception of the landscape through the open space design in key sites integrating four main concepts; Identity + Elements + Spaces + Functions = Open Space Design.

In the case of Hortobagy NP, the project showed that is possible to optimize and transform the perception of the landscape through a unique morphological concept, creating a unified and standardized identity between the park and the elements, likewise enhances the identity of each area with the design of elements with specific and unique features for the site. Finally, it takes advantage economically the tourism potential of the National Parks generating an economically, socially and environmentally sustainable system of elements achieving a harmonious and integrated balance between site, functions, and users. Accordingly, the public space in the National Park must be understood as a potentiality of life in a community that allows the appropriation and collective consumption of the spaces. It works as a support for economic, social and cultural activities and permits mobilization and social interactions. The project showed that in the case of public space in National Parks, the quality, and quantity of furniture and equipment define and determine the citizen interactions, the enjoyment of the touristic experience, the level of identification and the forms of appropriation that are established with the landscape and the environment. This means defining and establishing geographical, rural, architectural, functional, historical, and symbolic elements that allow building an image of public, accessible and enjoyable National Parks, capable of becoming the object of people’s perceptions, the imagery of the landscape and source of a country identity.

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**Kopsavilkums.** Nacionālā parka *Hortobágy* projekts pierādīja, ka ainavas uztveri ir iespējams optimizēt un pārveidot, izmantojot unikālu morfoloģisko koncepciju, izveidojot vienotu un standartizētu identitāti starp parku un elementiem. Vienlīdz uzlabojot katras teritorijas vietas identitāti, elementu dizainu ar specifiskām un unikālām vietas īpašībām. Rezultātā iegūta ekonomiski izdevīga un pamatota parka attīstības vīzija, veidojot parku par tūrisma vidi, radot ekonomisku, sociālu un videi ilgtspējīgu elementu sistēmu, panākot harmonisku un integrētu līdzsvaru starp vietni, funkcijām un lietotājiem. Nacionālā parka publiskā ārtelpa ir jāsaprot kā dzīves vide sabiedrībai, kas ļauj piesavināties un kolektīvi izmantot parka teritoriju. Projekta risinājumi parādīja, ka publiskā ārtelpa nosaka iedzīvotāju mijiedarbību, tūrisma pieredzes baudīšanu, identifikācijas līmeni un apropiācijas formas, kas tiek noteiktas līdzvērtīgos parkos.