



---

# LIBEŇ REPORT

---

Nidhi RAINA

Jules van RIEL

Manon SMEETS

Carolina VOSÁTKOVÁ

Elba Stefania VALENZUELA VELÁZQUEZ

Niels ZEVENBERGEN

**JUNE 25, 2016**

**WAGENINGEN UNIVERSITY AND RESEARCH CENTER**

## Table of Contents

Chapter 1. Introduction .....	1
Chapter 2. Key Research Findings .....	2
2.1 Environment.....	2
2.1.1 Physical Characteristics .....	2
2.1.2 Networks.....	3
2.1.3 Societal Presence.....	5
2.2 Organisation .....	8
2.2.1 Metropolitan Plan.....	8
2.2.2 Stakeholder Analysis.....	9
2.2.3 Public Perception.....	11
2.2.4 Management and Maintenance .....	13
Chapter 3. Scenario Development and SWOT Analysis .....	16
3.1 Themes .....	16
3.2 Scenario Development .....	17
3.3 SWOT Analysis.....	18
Chapter 4. Conclusion .....	20
References .....	21
Annex 3.1.....	22
Annex 3.1.1 Grid map for observations .....	22
Annex 3.1.2 Table for interviewees .....	23
Annex 3.1.3 Output of workshop PORG gymnasium .....	25

## Chapter 1. Introduction

The area Libeň as portrayed in figure 1 (including a small part of Kuchyňka in this report) is an area in Prague district 8, located on the right bank of the Vltava River. Prague 8 is one of the three biggest districts that account for more than 100,000 inhabitants (czso, n.d.). The north, east and west surrounding areas are mainly built and have an economical function and to a smaller extent residential. These functions influence the visiting population of the Libeň area. The functions are schools, offices, university and a hospital with a regional function (czso, n.d.; Interview 1). The researched area on the contrary is generally green. Green functions range from gardening to wild nature. However, the area is neglected in some parts as well as fragmented. The purpose of this report is to analyse the current situation and define opportunities and threats to improve the quality of life on the Libeň hillside.



Figure 1. Location of the five subregions: 1. Kuchyňka, 2. Bílá skála and surroundings, 3. Bulovka area, 4. Allotment gardens and 5. Park Pod Korábem

The analysis of the area is focused mainly on five sub-regions (Figure 1). Kuchyňka is a private community garden. Bílá skála is a mountainous area which is partly protected by law. Its surroundings include a cherry orchard and a forest. The Bulovka area includes the hospital Na Bulovce and green surrounding space. The allotment gardens comprises a closed area with urban farming and the sports centre. Park Pod Korábem is an intensively used public park.

The data was collected by interviews and questionnaires with stakeholders and locals, observations and literature research. The key research findings regarding Libeň hillside are outlined in the second chapter and are divided into two main sections: environment and organisation. Environment concerns three layers, which are explained in the methodology. The organisation part elaborates on governance of the urban environment: policies, stakeholders, public perception and management. The third chapter includes the SWOT analysis and scenarios.

## Chapter 2. Key Research Findings

### 2.1 Environment

#### 2.1.1 Physical Characteristics

##### *Geomorphology*

The importance of Bílá skála and its surroundings lies in its geological formations. From west to east, the south side rocks reveal a time-lapse through the Ordovician geological period. The older west side and the darkest rock under the Koráb gardens, were once the bottom of a deep sea. The middle area with its typical white and reddish quartzite, however, lied under a shallow sea. The rocks from west to east are between 485 and 445 million years old. As a result, fossils of marine vegetation and invertebrates can be found. The connection and evolution of these rock layers are the main reason Bílá skála is a protected natural monument. The youngest rocks under and south of the Koráb gardens are justly not protected, because no threats on geological importance could be found. The middle of Bílá skála was a quarry site until 1909. The rocks were suitable for the creation of cobbles. (Interview 36)

The bare rocks in Bílá skála and south of the allotment garden don't play a role in the natural water retention system. The risk of further erosion or a too low water buffering capacity is low due to thick soils on the gardens and Na Korábě and the vegetation cover on Bílá skála. (Interview 36)

##### *Ecology*

Overall, Libeň does not provide a lot of habitat or supporting services. Due to gardening and the presence of exotic vegetation on Bílá skála and Na Korábě, no native ecosystems occur in Libeň. Nevertheless, the areas provides breeding, feeding and resting habitats for some birds, invertebrates and reptiles. Since 2010 there are cherry orchards north of Bílá Skála that provide a habitat for a range of important invertebrates. (Interview 23) There are no faunal red list species in Libeň.

At the start of the previous century, almost all trees covering Bílá Skála and Koráb gardens were cut down for fuel. This resulted in erosion of soil cover. While it had a positive effect on the weathering of rocks, the loose soil hindered the roads and canals down the hill, as well as the small-scale agriculture on the hill. As a counteract, Bílá skála has reforested again mainly with invasive species. As a result there is not a specific vegetation type. Among these invasive species were *Quercus petraea*, *Quercus rubra* and *Robinia pseudoacacia* which dominated the hill for almost a century. This resulted in the ecosystem differing from its natural state. Furthermore, the *R. pseudoacacia* lives in symbiosis with nitrogen-fixing bacteria. On the long run, this results in a higher nitrogen flux into the ground, shifting the naturally oligotrophic system state to a more eutrophic one. This leads to indigenous species being outdone by invasive species, decreasing the biodiversity of the hill. Five years ago, the municipality started to open up the hillside by cutting these exotic species, this aids the indigenous species in ecological succession. (Interview 36)

At the top of Bílá skála, forestry cleaning has been practiced for several years now. This creates a potential for the development of the eastern viewpoint, (figure 5), as it opens up the view of the city. It also has an ecological function, as it creates opportunities for newly introduced indigenous species to repopulate other non-cleaned areas. If this management was to be applied on the top of the eastern part near the Korab gardens the eastern viewpoint could be developed in a way that is beneficial for the visitors and the ecosystem. This cleaning does not have to be introduced in other parts of the hillside because a mosaic structure of nature often results in high biodiversity. (Interview 23)

### *Environmental quality*

Because of its morphology, Libeň lies higher than its surroundings. As a result, there is no external anthropogenic influx of chemicals, nutrients or organic matter, except atmospheric deposition. The little atmospheric deposition of e.g. soot, volatile organic compounds and NOx can be retained or removed in the soil. The internal anthropogenic nutrient influx, mainly in the gardens, slowly enriches the soil nutrient balance. This may lead to nutrients being transported to the river through the groundwater. Compared to other sources of river pollution, this is a relatively small one. From figure 2 it is apparent that the general air quality in Libeň is worse than average city values. (Interview 36)

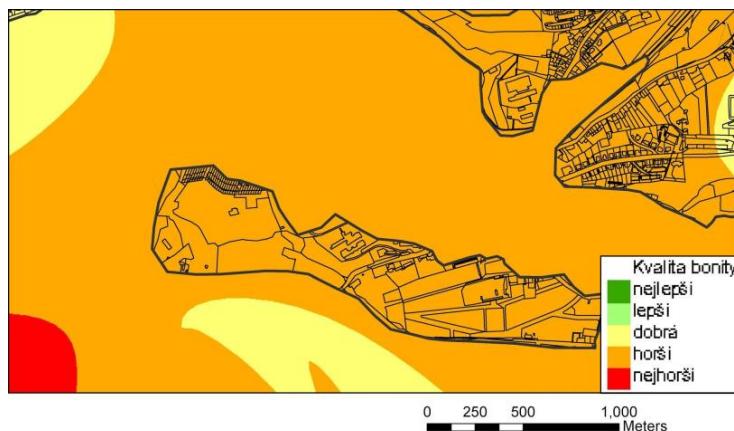


Figure 2. Overall air quality in Libeň from worst (red) to best (green) (Geoportal Praha, 2016c)

The temperature in Bílá skála is slightly higher than the surrounding areas which is usually not the case for green areas and their microclimates. That is due to the dark rocks and soils, which absorb relatively more heat. As a result, the natural vegetation is mostly thermophilic. (Interview 36)

### 2.1.2 Networks

#### *Bio-corridors*

Bio-corridors between the subregions are absent or interrupted. So the connectivity between the subregions is relatively bad for flora and fauna. Most disturbing is the highway surrounding Bílá skála and the road that divides Bílá skála with the Allotment gardens. The connectivity for flora and fauna from Libeň, to adjacent research areas Troja, and Prosecké skály, are almost absent. The area Libeň does not connect to Prosecké skály area, because of the built environment in between. The only connection between Troja and Libeň is the Kuchyňka area. The rest of the Libeň area is not connected with Troja also, due to the highway. (11L/P, Observation, 2016)

#### *Transport network*

As can be seen in figure 4 the public transport service for external accessibility is varied. To reach the area, the tram and bus connections are most effective. The Libeň area is mostly accessible from the north side of the area. Also several bus stops are present at the north. In the south side there is no public transport connection. Access is blocked mainly by the railroad passing in the south (Figure 3). Concerning private transport, it is easy to reach the area by car especially from the north. From the south it is only accessible by car via Bulovka street. The car accessibility, however, also leads to parked cars at places not intended as parking lots (e.g. between the graveyard and the allotment gardens). As for cycling and walking, the area provides sufficient options to reach all functions in the

area, especially in the northern part. From the south side, however, there are only two entrances for pedestrians, namely a pedestrian tunnel at the east leading to the park and Bulovka street. The major exception on good car and pedestrian accessibility is the mountainous Bílá skála: clear walking pathways to the top are absent. Also, accessibility between the different areas is quite complex, making walking or cycling trips not favourable. (11L/P, Observation, 2016)

The area, however, lacks internal accessibility. The (nature) functions might explain this lack for public transport and car transport. However, also pedestrian accessibility lacks. There is no way to travel directly from Bílá skála to Park Pod Korábem, because of fenced allotment gardens, neglected nature and roads (Figure 3). Furthermore, the connection by public transport between Bílá skála and Kuchyňka is insufficient. It is quicker to cover the distance by foot.



Figure 3 Fences blocking internal access (left), Railway blocking external access (right)

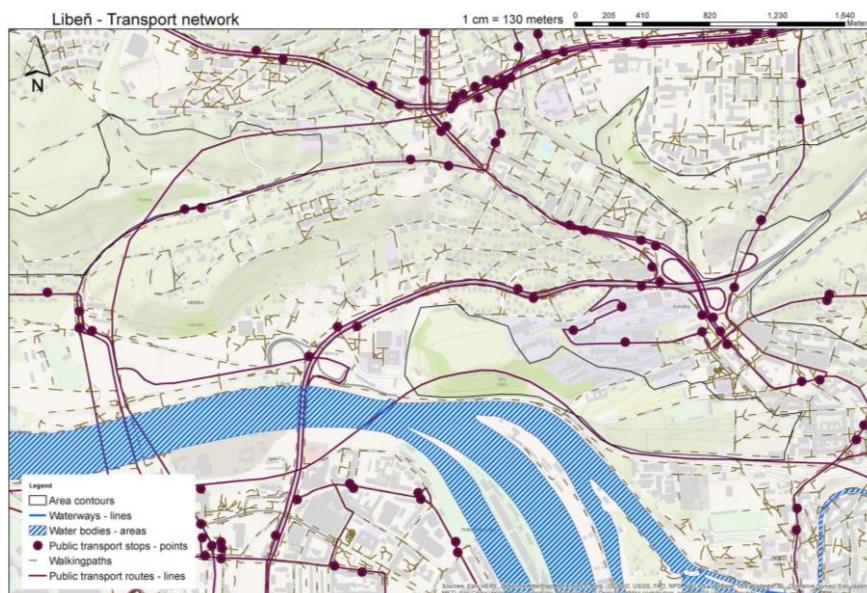


Figure 4. Current public transport stops and roads

### 2.1.3 Societal Presence

The subareas within Libeň consist of various land-uses, of which greenery is the major use as is represented in figure 5.

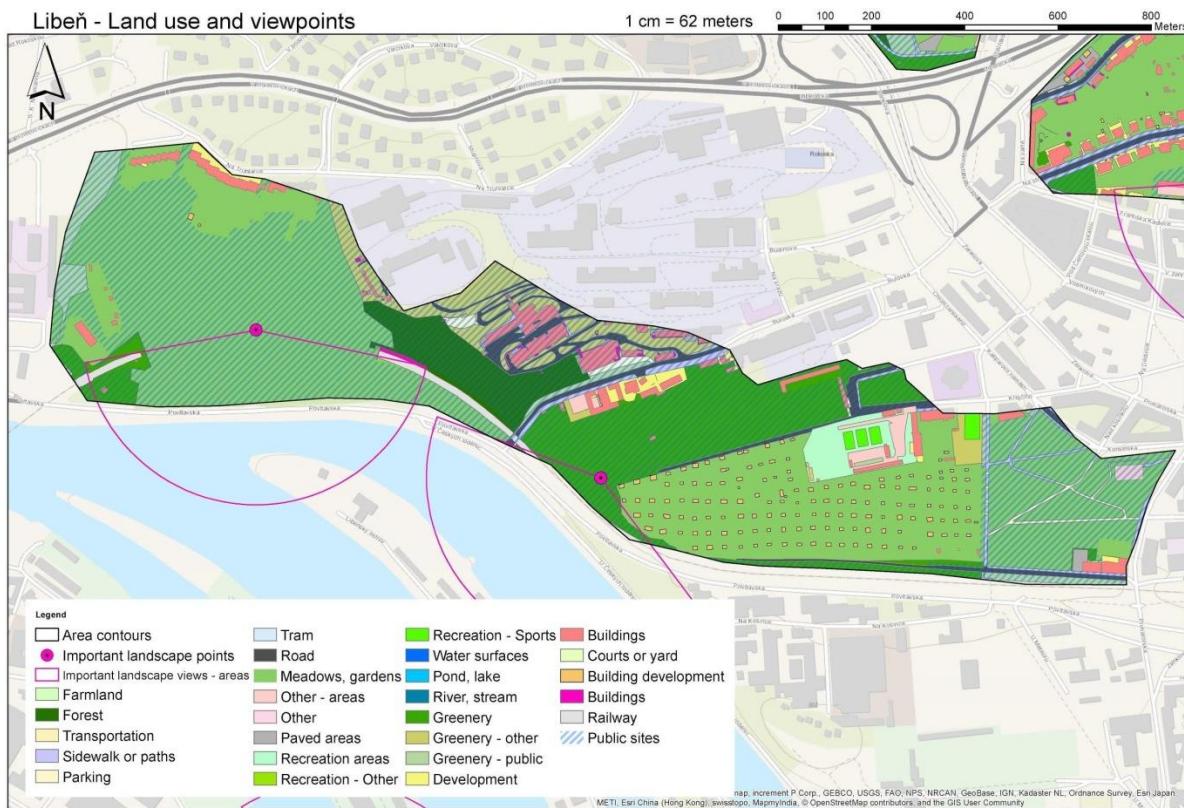


Figure 5. Land use and viewpoints (Geoportal Praha, 2016a)

Concerning human use, the questionnaires pointed out that the majority of the questioned people visit the specified hillsides once or multiple times a week. Generally, people seem to visit the hillsides mostly in the afternoon and during weekdays. Visits are not very dependent on the season, though most visits are during spring and summer. Libeň area is mainly visited for nature walks and leisure (figure 6). Further specification of human use per subregion is described below.

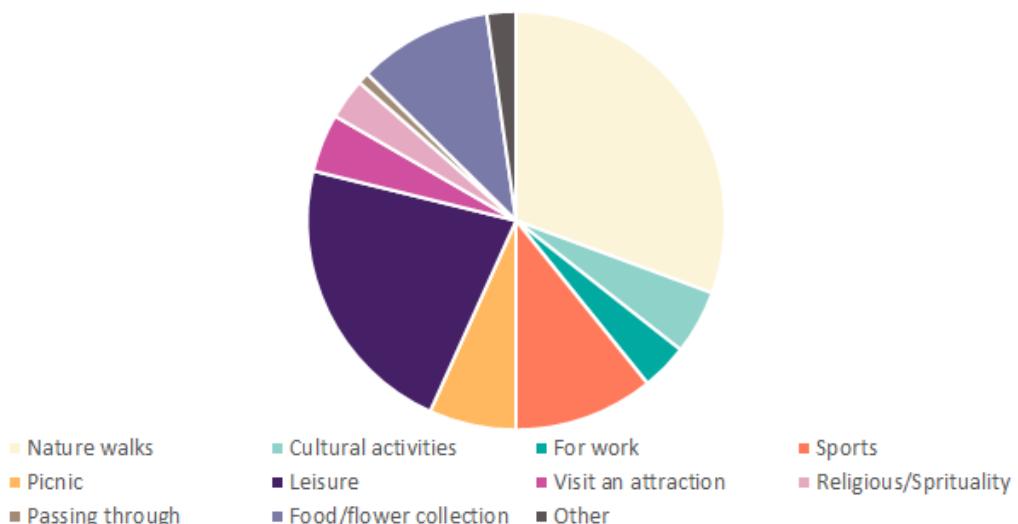


Figure 6. Human use of Libeň area

### Park Pod Korábem

In the park, the land use is mainly greenery. It has paved roads, ample benches, well-trimmed grass, dustbins, litter bags for dog excreta and street lights. The park is very permeable and has many entrances, which might be the reason that many people feel safe. In the most southern part of the park, there is a patch of ecological succession; high grasses are the main flora to be found. However, some locals pointed out it was being used as 'public toilet'. From observations, it can be concluded that the park is the most visited spot of the Libeň area. The park is visited by a diverse range of users, be it people with their families, toddlers or their dogs. The park is used for various activities; playing sports, jogging sitting and chatting, playing with dogs and reading books. There also is a playground where many children spend their afternoon. Besides this, there were also people that seemed to be using unlawful substances in the park. (12O, Observation, 2016)

### Allotment garden area including sports centre

The allotment gardens itself are mostly used for gardening and relaxation. The areas adjacent to the allotment gardens are used for recreational purposes like either relaxing or sports. The allotment garden is a private community, in which people need to apply to get a garden. The sports centre is used for playing team sports, like beach volleyball. (12N/O, Observation, 2016)

### Bílá skála and surroundings

This area consists of mainly two types of land use: greenery and farmland. The farmland concerns a communal cherry orchard, providing one of the few public provisioning ecosystem services in the surroundings. They are, however, hard to reach, between the forest on Bílá skála and private properties north of it. (11L, Observation, 2016)

The other part is wild nature. In order to reach the top of Bílá skála, one has to climb a difficult, slippery and non-maintained pathway. There were no fences near the slope which could be dangerous. When talking to various citizens, a majority had never been to Bílá skála nor knew about its existence. Even though the area is protected it could provide useful cultural functions like recreational, aesthetic, educational or inspirational.

### Bulovka

The Bulovka area is densely built which reflects the amount of services that is provided here. The area has a hospital, graveyard, some cafes and a school. The area is used by a big diversity of people and from other areas of Prague since Hospital Na Bulovce is one of the largest hospitals in Prague. (11N, Observation, 2016)

### Kuchyňka

The Kuchyňka area can be divided into two different land uses. In the upper part, the land is not used and maintained anymore, resulting in wilderness. The middle part's land use is meadows and gardening. In this community garden, people enjoy barbecue, sunbathing, gardening, relaxing with families or alone. The community gardens seem to be very welcoming to its members and everybody works and celebrates together. (10J, Observation, 2016)

### Aesthetics

Trash that can be found throughout Bílá skála hinders the aesthetic ecosystem services. The potential of both viewpoints (figure 5), is high because of their low view obstruction on the cityscape (Figure 7). Other protected areas in Prague have shown that when visitor numbers increase, homeless people tend to move towards places with fewer visitors (Interview 36). In Park Pod

Korábem, almost no trash was to be found. The environment was open because vegetation was either high trees or mown grass. (11L/O, Observation, 2016)

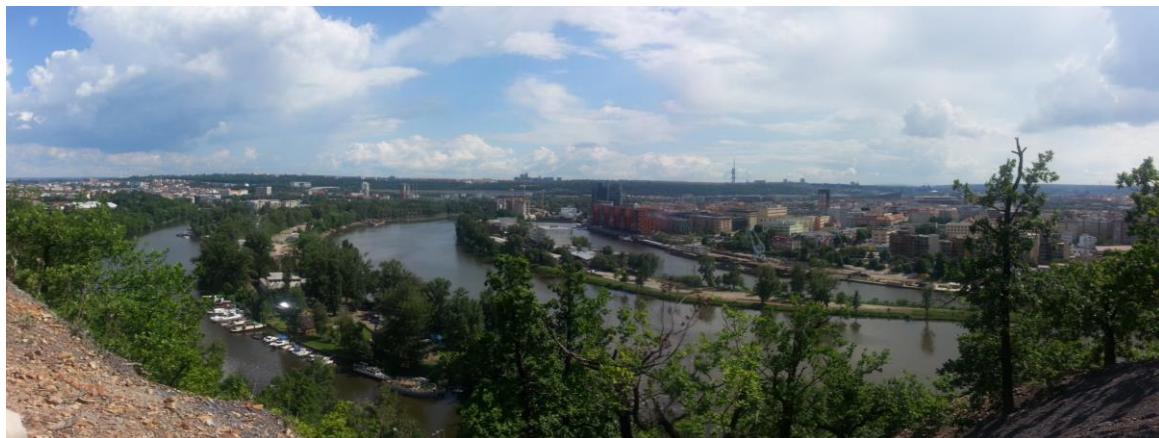


Figure 7. View from the western viewpoint

#### Education

Signs in the park allow for informal education of its interested visitors. Bílá skála has a high potential for educational ecosystem services due to its geological formations and good visibility from the outside. Recently, articles were published regarding the important geology, indicating that experts value the Bílá skála as increasingly important. (Interview 23)

#### Noise

Compared to surrounding green areas, the noise levels were relatively high on both viewpoints. Most noise is due to traffic and construction works at the other side of the river. Due to the open environment of Park Pod Korábem, traffic noise was present as well. The noise levels at Kuchyňka were pleasingly low, resulting mostly from birds and visitors. Alongside the allotment gardens the railway, is the main source of noise. In figure 8, the loudness of the noise is graphically displayed in the Libeň area. (11L/O, Observation, 2016)

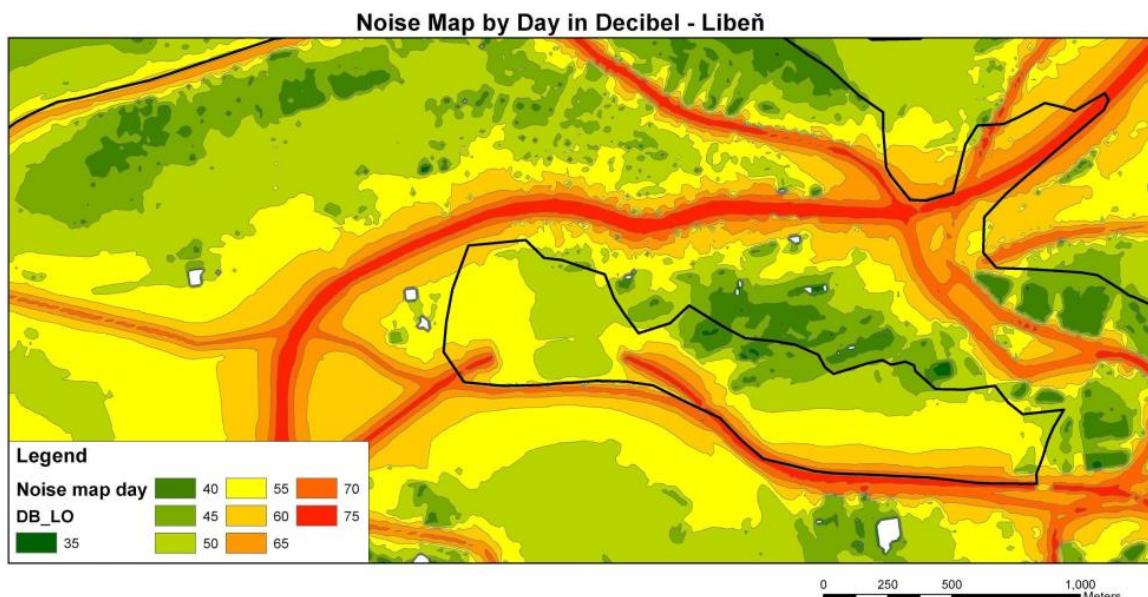


Figure 8. Noise map of Libeň (Geoportal Praha, 2016d)

## 2.2 Organisation

### 2.2.1 Metropolitan Plan

Most spatial policies apply to all hillsides. However, since the Metropolitan Plan differs amongst different localities, we address it below.

The Metropolitan Plan is the future land use plan of Prague (see chapter ‘governance and maintenance’, synthesis report). Figure 9 shows the current Metropolitan map of the Libeň area with several marks that are discussed hereafter.

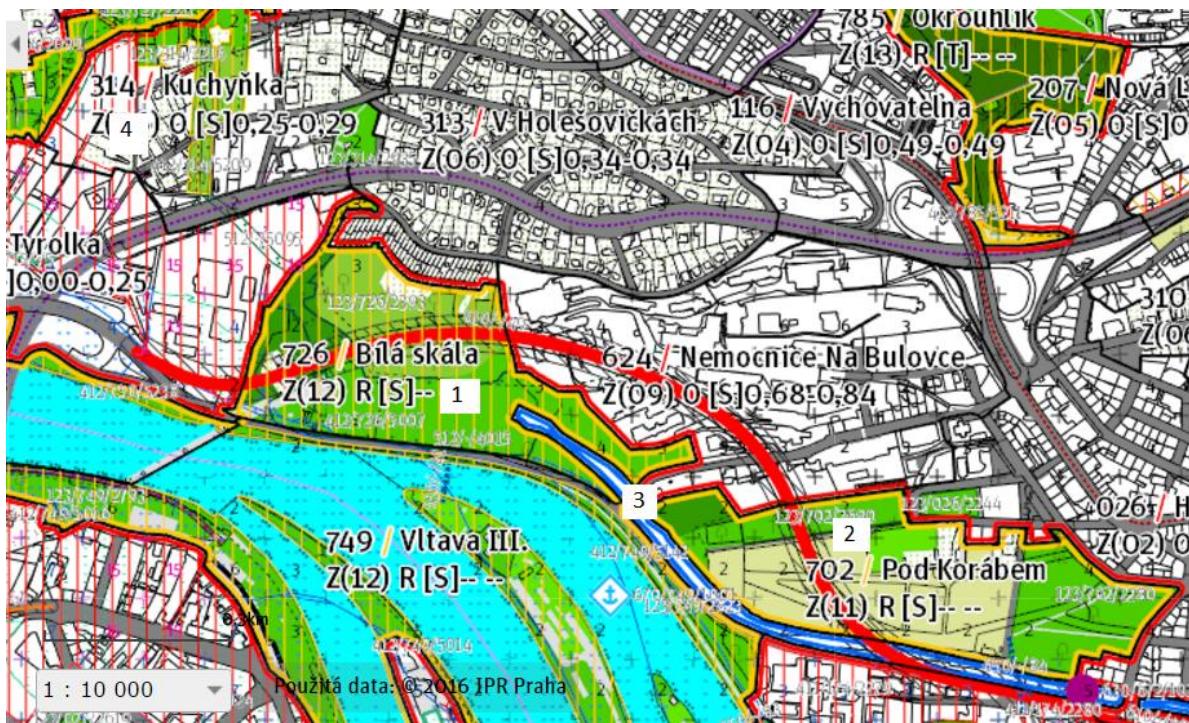


Figure 9. Metropolitan plan around Libeň

The areas 1 and 2, excluding a small part of the Bulovka area, are surrounded by a thick yellow line which indicates the plot is restricted from urban development. However, the grid lines in yellow in the area 1 indicate that transformation for recreational use is possible. The plan states that in order to do so, improvements could be the permeability of the area, creating facilities and an environment in line with the character of the location. For area 2 the plan keeps the current functions in use. The area 3, demarcated by the blue line, cannot be built on and has a production function. The area 4 in which the community garden is located, is indicated as a transformational area for residential use. The site is characterized by disparate building and park area.

Remarkable furthermore, is that the thick red line going through the area indicates the future ring road of Prague.

#### *Nature protection legislation*

Concerning the Bílá skála, there is Law nr. 114/1992 Coll. that defines the area as a protected landscape area. It is allowed to climb in the area (Department of Landscape Management FFWT Mendel University in Brno, 2014).

## 2.2.2 Stakeholder Analysis

The stakeholders relevant to the Libeň hillside can be divided into three categories: governmental, economical and societal parties. The relations between the stakeholders and their individual interests are outlined in this part. This visual representation of the stakeholders and relations is portrayed in figure 10.

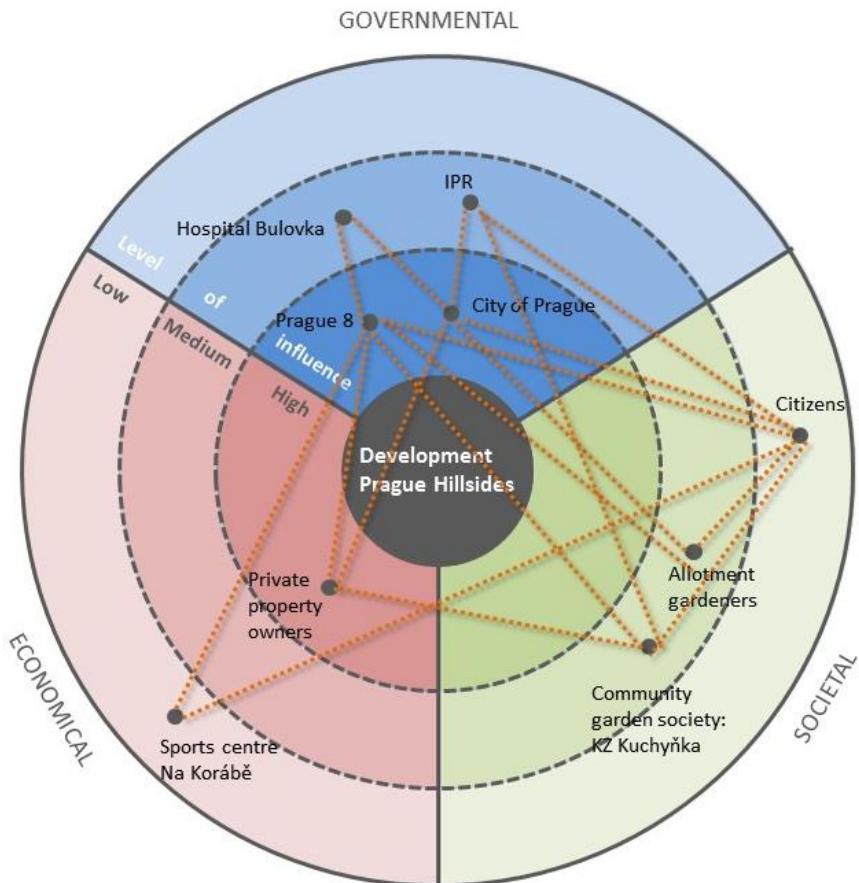


Figure 10. Stakeholder matrix

### Governmental parties

**The City of Prague** - The spatial planning department of the City of Prague is responsible for the supervision on the creation of the land use plan, monitoring the land use plan, preparing data and dealing with proposals for construction. The City of Prague has no long-term strategy regarding the plots they own on the hillside. When the city wants to change the land use plan, the districts have to be consulted, but they do not have a veto in it. (Interview 19)

**Prague District 8** - The city district plays an important role in the development of the hillside. No long-term vision is present, but improvements are done an ad hoc with local projects. These projects focus on the land owned by the district itself, and mainly concern its maintenance. The attention to green infrastructure and the hillsides depends on the political party in charge. At the moment, more attention is given to the green areas. Bílá skála is one of the areas the district wants to focus on during this elected period. The interest of Prague 8 is to improve the natural quality in the protected part of the Bílá skála. For the non-protected part, the aim is to make the area more accessible to people. Citizens are involved in the plan-making for natural areas. The relationship with the City of Prague differs from project to project. Mostly the discussions between Prague 8 and City

of Prague are about ownership and maintenance. The City is responsible for their own plots and for the nature conservation. (Interview 21)

The Prague Institute of Planning and Development (IPR) - The IPR, provides support in policy making on spatial planning matters. The City of Prague, provides its funding and (dis)approves drafts and coordinating documents. IPR advocates participative planning. Through its ties with citizens and role in spatial policy making, IPR can impact the way the hillsides will develop. However, the institution is part of the political process in Prague in which they have little formal power.

Hospital Bulovka - The interest of the hospital in the hillside is an improvement of the maintenance of the green in and around their property. However, the hospital does not want more connection between them and the green areas around, because of security of patients and their employees. Furthermore, the hospital has growing patient numbers, leading to the wish of the hospital to expand. The hospital rents part of its plots from Czech Republic and part of the City of Prague. The relation with the City is under tension, because of the increasing amount of rent that is demanded. The relation with Prague 8 is mostly informal and concerns employee housing and maintenance. Furthermore, the hospital is involved in a commission set up by Prague 8 that deals with the improvement of the quality of life in general. (Interview 1)

#### *Economical parties*

Sports centre Na Korábě - The sport centre Na Korábě currently has a local function, providing sports facilities to citizens of the surroundings. The owners would like an even better developed green area around the sports centre to attract more people. Furthermore, they think performing outdoor sports in the Libeň area is a potential. The centre rents its property from Prague 8, while owning the built properties on it. Their main concern is that the property they are renting will be sold by Prague 8 for development. They have limited power, as they are dependent on the owner. Besides that, it is felt as a threat that the allotment gardens property will be developed for housing, ruining the green characteristic of the area. (Interview 8)

Owner of the Kuchyňka plot - The owner of the plot stimulates the community garden association that uses his land. Besides this use, he also wants to build houses for his children. The owner is a powerful stakeholder because of the strong resource: ownership. However, the owners have close cooperation with the gardener's community. They even bought a piece of land on which a path, desired by the community, can be constructed connecting the river with the community garden. (Interview 30)

#### *Societal parties*

Civic gardeners' association Kuchyňka - The civic association KZ Kuchyňka started off in 2013 and set up the community garden concerning organic farming/gardening. The garden has a local function since at the moment about 80% of the members are people from the surroundings. The community is currently only open to its members, with the exception of open days. The plan is, however, to open up the garden more to the public. The community would like to better connect the garden with the riverside to improve the attractiveness and accessibility of the community garden and the surrounding plot. Furthermore, the community would like to extend the functions of the total property of 1 ha to, for example, a kindergarten, orchard, and elementary school. To fit these plans into the bigger plan of the 1 ha area the association is in contact with the IPR to provide them recommendations. Contact with Prague 8 will also concern cooperation to achieve these plans. The connection with the City of Prague is minimum, as they only got a subsidy from them to develop the

garden. The association is not afraid of development in and around its area, since it has been a desolated area already for a long time and a large part currently is not allowed to build on due to landscape protection and the bio-corridor. (Interview 30)

*Allotment gardeners* - The gardeners of the allotment garden in Libeň, in place since 1949, are represented by the Czech association of gardeners. The interest of the gardeners is to keep the gardens the way it is now. Furthermore, the gardeners do not want to open up their spaces, because they are afraid of intruders and homeless. Attempts to intrude have taken place. The association rents the plots from the city of Prague. The association rents individual plots further to citizens. The contact with Prague 8 is good and concerns practical issues like approval for chopping trees. Building regulations for the cottages are arranged by Prague 8. (Interview 11)

### 2.2.3 Public Perception

Public perception research is mainly based on questionnaires. In the Libeň area 106 questionnaires were collected, on which the following analysis is based. This chapter is divided into four parts: general current perception, media, future improvements and willingness to participate.

#### *Current opinion*

Most people think the hillsides are easily accessible from the outside, but also within the hillsides movement is clear and easy. Generally, people also feel safe, happy, and healthier when visiting the hillsides.

#### *Media*

Prague district 8 publishes monthly the magazine "OSMIČKA" and it has a Facebook and Twitter page, which seeks to publish information for the quality of life of citizens in Prague 8. "OSMIČKA" magazine is distributed to all mailboxes in Prague 8. In 2015, Prague 8 got the first place in the regional competition for best websites of cities and municipalities, what shows the strength and willingness of the municipality to cooperate and involve local citizens by providing access to information about their district online.

The other web pages, which are focused on district Prague- Libeň are mostly Facebook pages of political parties, who are promoting mainly projects and events set by their party.

#### *Future visions*

Most of the people like the hillsides, and do not feel like there should be more green on the sides. Many people would like to be informed more about the developments of the hillsides, however, they do not want to cooperate with urban experts to contribute their ideas. People do not think they are going to visit the hillsides more when they are improved, but they would appreciate improvements in the hillsides.

Based on interviews with local citizens in location Kuchyňka the accessibility is bad, also the state of the infrastructure has to be improved, especially for people with children in buggies (Interview 37 with local citizens. People living in Kuchyňka area also mentioned that there are no options for buying groceries, which is even harder for elder people (Interview 36).

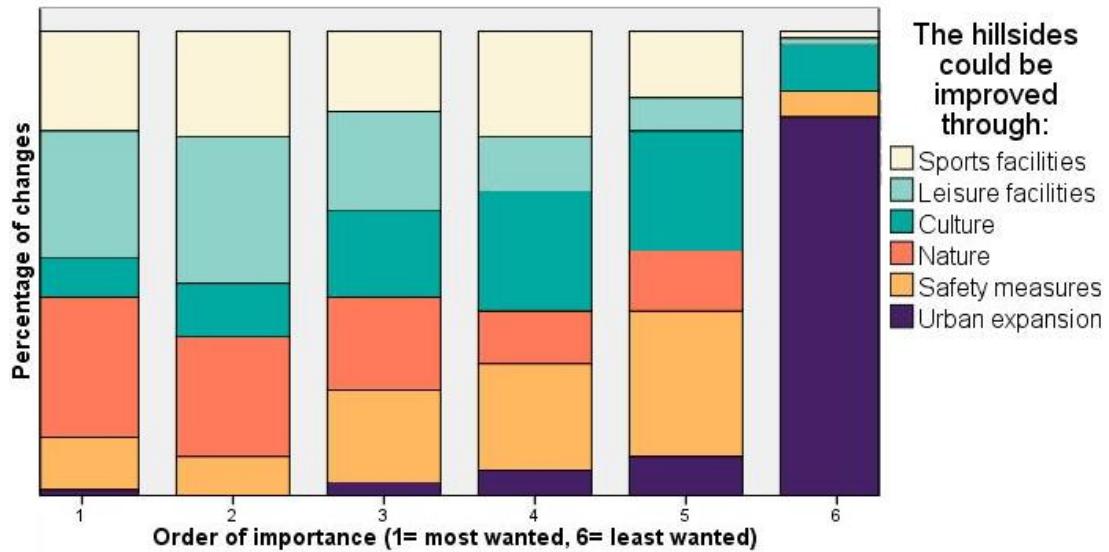


Figure 11. Importance of improvements in Liben hillsides according to respondents of questionnaire

Figure 11 shows valuable information concerning the opinion of people about the improvement of the hillsides. There are two major things that can be concluded from these data. Firstly, the most popular improvements regarding the hillsides would be more facilities for leisure, and more nature development. Secondly, the least favourable option to improve the hillsides would be to expand urban areas throughout the hillsides.

#### *Workshop and students' opinion*

During a workshop in the Gymnasium PORG, located next to Park Pod Korábem (Košinka), local student's opinion about Libeň area were discussed. Bílá skála is not known by the majority of the students. Those who are aware of the protected area Bílá skála believe the accessibility to the area should definitely be improved. An example of other discussed issues can be seen in figure 12. The students see the hospital Bulovka area as a closed place, which is not accessible for the public; local students would welcome interconnectivity in Bílá skála.

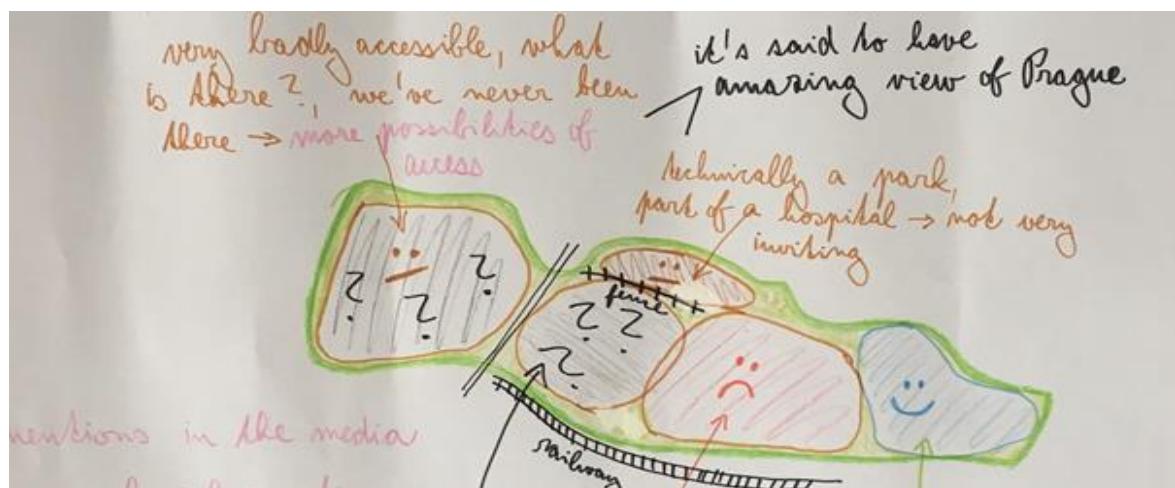


Figure 12. Example of an output of the workshop. (Other posters are in Annex 6.1)

### *Public participation*

Through magazines and social media, Prague 8 tries to improve social innovation. Prague 8 aims to support local citizen's initiatives, who are motivated to improve their area in a sustainable way. They use the participatory budget that allows direct involvement of citizens in decision-making on the development of their communities. In addition, the municipality of Prague 8 held a meeting for local citizens where they discuss new opportunities for surrounding environment (Interview 21).

Town Hall of Prague 8 defined 10 million Kč of the annual budget for citizens, who can determine, through online voting, where exactly the money will be used for improvement the community next year. (MČ Praha8, 2016).

The Environment Commission of the District Council of Prague 8 started focusing in 2015 on the revitalization of parks and public green areas. The commission selected and prioritised 9 locations, one being Bílá skála and its surrounding area. The commission organised online voting to involve citizens in the prioritisation of revitalization projects. According to the vote results, most citizens prioritised revitalization of other locations above Bílá skála and the surrounding neglected areas. Nevertheless, the project focus on revitalization of the cherry orchard started in 2016 (MČ Praha, 2015).

Based on the participation ladder of Arnstein (1969), the different levels of participations are illustrated in figure 13. According to questionnaire analysis, even though people feel responsible for maintaining the hillsides, they do not want to participate with the municipality for the management of the hillside(s). Nevertheless, majority of respondents would like to be informed more about the developments of the hillsides, even though they do not want to cooperate with urban experts to contribute their ideas.

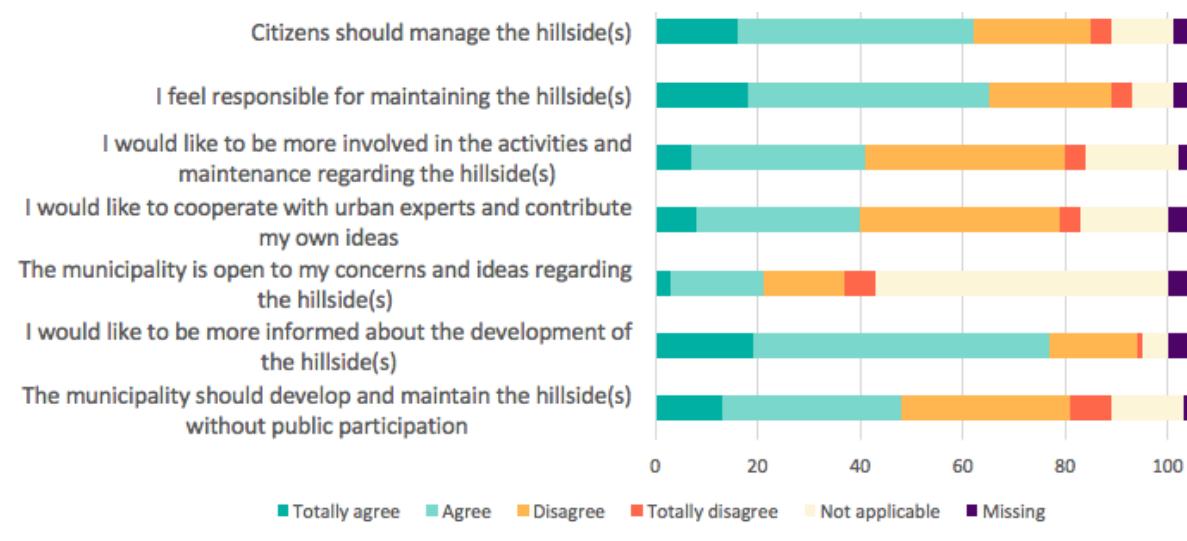


Figure 13: Public participation

#### 2.2.4 Management and Maintenance

The management of the Libeň area can be divided into two main categories: public and private. The majority of the area in Libeň is publicly owned (Figure 14). The Kuchyňka area and some buildings/residential parts in the outer parts of the Bílá skála and Park Pod Korábem are privately owned. The public areas are mainly owned and managed by the City of Prague or Prague district 8. The privately owned plots are the responsibility of the respective owners. Maintenance of the plots is in principle the responsibility of the owner.



Figure 14: Ownership map (Geoportal Praha, 2016b)

The public spaces belong to the City of Prague, Prague district 8 or Czech Republic. Fragmentation of ownership makes it hard to make good plans for maintenance and decreases maintenance efficiency. Some public owners have even made appointments with users ('renters') that in exchange for using the plot, they should maintain the area. This is the agreement for example between Bulovka hospital and Czech Republic (the hospital plot is owned for 70% by Czech Republic). It seems a good strategy to provide important functions with maintaining green space. The downside, however, is that the hospital does not have money to execute the maintenance. The other 30% of the plot is owned by the City of Prague, who is willing to raise rent prices, decreasing the budget for maintenance even more (Interview 1). A solution could be to agree on the owners taking care of the Bulovka area in exchange for opening up.

Within public spaces there is a difference in the degree of maintenance: intensive and extensive. Bílá skála is maintained extensively. Though the nature can definitely use some help if the wish is to increase the biodiversity. If so, the continuation of the cutting of invasive species is important, because the hillside is still partly dominated by these exotic species and that hinders the ecosystem to develop to its natural state.

Park Pod Korábem and the Bulovka area are managed and visited intensively. They have different uses and functions, this leads to a differences in management of their green spaces. The sports park is owned by the municipality, but the sports park is responsible for maintaining the green space there. However, sometimes also a difference in degree of maintenance decreases the quality of the area. Setting up joint-management could help to tackle this problem.

Concerning the management strategy of the Libeň area only for Bílá skála area a plan has recently been made by Prague 8 which proposes revitalization of the area directly adjacent to the protected part of Bílá skála. (Interview 21)

Concerning private parties, in Libeň area some plots are contested concerning their possible development. For example, in the Kuchyňka area due to changes in Prague's laws a new function

was to be found for the plot. Therefore, the owner looked for a new function which became the community garden. This is a successful place where the owner merely owns the plot, but leaves the maintenance to a gardening association. Currently, this owner even favours this kind of activities and tries to help the association by providing gardening-tools. This is a proactive approach which improves quality of life in the area. On the other hand, the private owner can lose interest in the community garden, but still chooses not to sell. The plot will remain in private hands, but without interest of the owner the plot will be neglected and could turn into wilderness. This situation is the case on the uphill part of Kuchyňka. The municipality, however, has not enough money to buy out the private owner of a neglected plot. Due to this, the municipality tries to socially connect with the private owner in order to convince him to either sell their plot for a bargain to the municipality, or to maintain it properly. This will not lead to the desired effect in all cases. Therefore, a more effective way of dealing with these private owners should be found.

# Chapter 3. Scenario Development and SWOT Analysis

## 3.1 Themes

Analysing the data obtained from the field research, numerous themes arose. The themes that emerged in every hillside were selected: governance and maintenance, development, functions, accessibility, attachment, safety and ecosystems. Below is a summary of the thematic issues that arose in our area:



### Governance and maintenance

- Bílá skála is partially protected by law.
- Insufficient budget for maintenance of green spaces.
- District 8 uses small-scale projects to improve the hillside.
- Focus is mostly on operational management and not on strategic management.
- Lack of coordination between public and private owners.
- Division of responsibilities unclear among public owners.
- High differentiation in the degree of maintenance among the plots. (intensive – extensive).
- Fragmented ownership.
- Lack of participative planning.
- Government wants involvement of society on the decision-making process for natural areas.



### Development

- Lack of long term goals in policies regarding green spaces.
- Interest in preferred land use differs: urban oriented or nature oriented.
- No master strategy for the hillside.
- The green areas around Bílá skála are protected, but can be transformed for recreational purposes.
- Future ring route planned to cross Bulovka area (hospital).



### Functions

- *Bílá skála* - Refuge for homeless people.
- *Allotment gardens* - Recreation for gardeners/ renters.
- *Park Pod Korábem* - Recreation for visitors.
- *Bulovka area* - Diverse services; mostly built.
- *Kuchyňka area* - Recreation for volunteers.
- Abandoned plots that serve as refuges for homeless people.



## Accessibility

- *Bílá skála* - Lack of proper pathways.
- *Park Pod Korábem* - Presence of pavement pathways connecting Park Pod Korábem and Bulovka area.
- In general there is a fragmented public transport network between subregions and *other* hillsides.
- Connection between parts is blocked because of fences and neglected green space.
- Railway blocks accessibility from the south.



## Attachment

- *Bílá skála* area not well known among local citizens.
- Lack of mental connection among local citizens to *Bílá skála*.
- Low willingness of the citizens of Prague 8 to participate.



## Safety

- *Bílá skála* - No handrails near the slope, decreased physical safety as consequence of lack of defined pathways.
- *Allotment gardens* - Gardeners afraid of intruders.
- Presence of people abusing unlawful substances.



## Ecosystems

- No natural ecosystem.
- Important geological formations.
- Hillside partly dominated by invasive species.
- Cherry orchards provide habitat for important invertebrates.
- Average air quality.
- Bio-corridors between the subregions are absent or interrupted.
- Forest cover provide erosion-control.

### 3.2 Scenario Development

We developed the four scenarios using two out of the seven themes mentioned above: “Governance and maintenance” and “Development”. We placed some issues coming out of these themes on two axes and they acted as the foundation for the development of scenarios (*figure 15*). This way four scenario quadrants appeared, each representing a possible future for the hillsides. For each quadrant there is a scenario storyline which describes how the future will unfold and addressing the remaining themes (*Synthesis report, ch. 4.2.2*). In particular, the y-axis divides the theme “Governance and maintenance” in two extremes: a ‘top-down’ or a ‘bottom-up’ approach. The first defines the initiatives and decision-making by governmental bodies for the wider public and the latter represents the decision-making by smaller group of people like civil society actors or local

community organizations. The x-axis “Development” consists of nature development or urban development. The first indicates inclination towards green preservation and the latter describes more the built development of the hillsides and its surrounding areas.

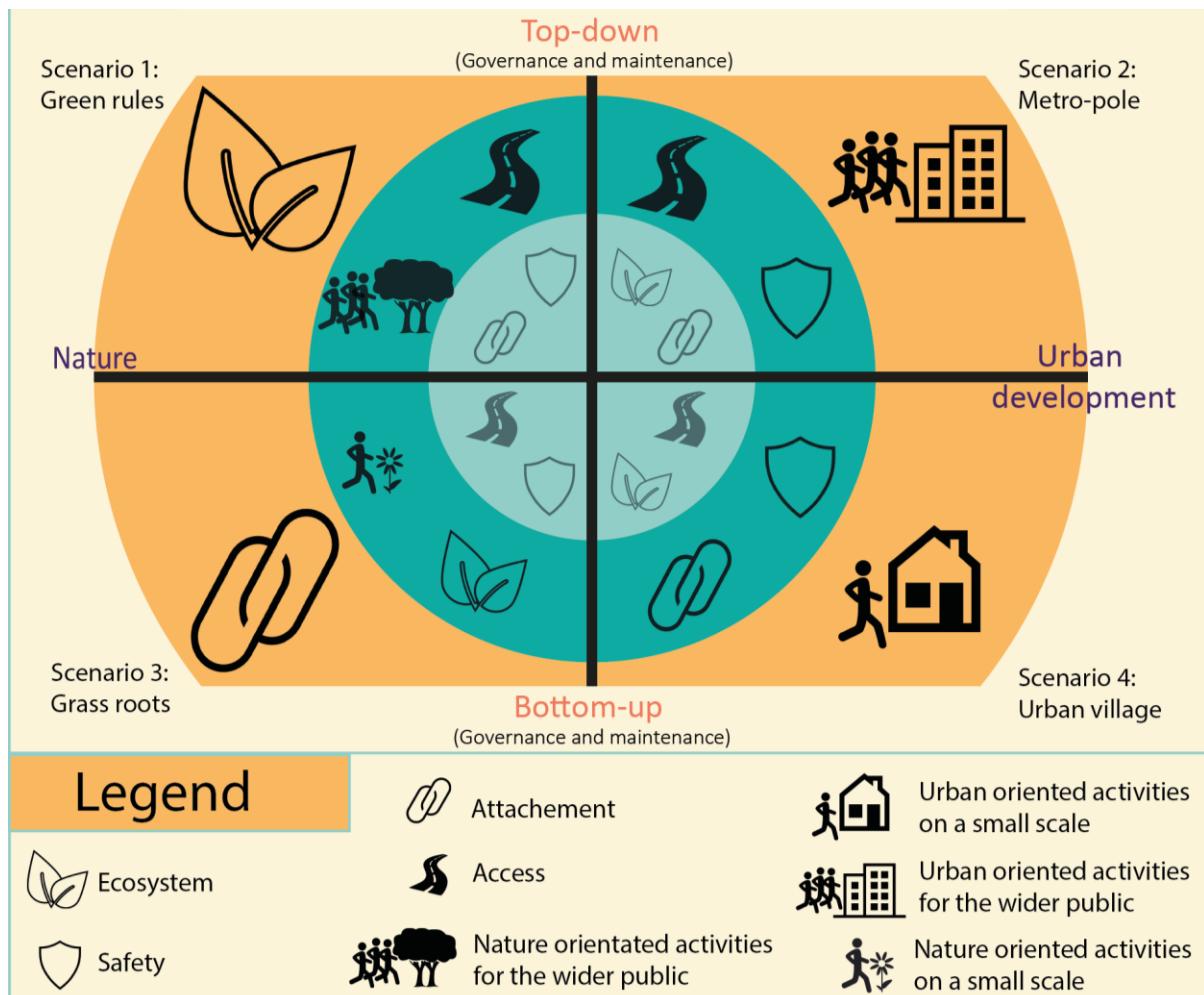


Figure 15. Overview of scenarios

Concerning the governance and maintenance in Libeň area there is a mix of top-down and bottom-up governance. At the moment top-down is dominant, but there is a tendency towards bottom up by enhancing participation and bottom up initiatives like the community garden. In nature versus urban development the area is nature-centric at the moment. The tendency, however, is gradual development of more urban functions, e.g.: a kindergarten, elementary school, paved pathways, etc.

### 3.3 SWOT Analysis

In order to uncover and utilize the potentials of the scenarios, a SWOT analysis is carried out. SWOT refers to the analysis of (S) strengths, (W) weaknesses, (O) opportunities and (T) threats that could influence the future of the hillsides. The first two aspects, (S) and (W), describe the pros and cons of the current situation of the hillsides. The second part, (O) and (T), relates to issues in the present situation that might facilitate or obstacle the implementation of a certain scenario. The SWOT analysis of Libeň area can be found below in figure 16.

1

## Green Rules

### Opportunities

- Presence of green areas enhance nature development of Bílá skála.
- Prague 8 favours natural development and quality in protected part of Bílá skála.
- The Environment Commission of Prague 8 focuses on revitalization public green areas.

### Threats

- Privately owned land prevents nature development of Bílá skála.
- Stakeholders of Bulovka area don't want collaboration towards nature development.
- Changes in the political agenda of Prague 8 limits nature development.

## Grass Roots

### Opportunities

- Local initiatives are implemented on privately owned land.
- Local citizens favours connection of green spaces and riverside to improve attractiveness and accessibility of Kuchyňca.
- Local citizens perceive maintenance as their responsibility.

### Threats

- Lack of resources and coordination limit development of nature activities.
- Lack of resources and low involvement of local citizens lead to neglected management.
- Metropolitan plan includes partly development of urban services on Libeň.

2

## Metro-pole

### Opportunities

- Interest of landowners in allotment and community gardens favour expansion of 'urban sphere' in their plots.
- Metropolitan plan includes development of a Highway favoring external connectivity of Libeň.
- Unbuilt public space in Kuchyňka offers room for further urban development.

### Threats

- Protected status of Bílá skála stops urban development on this sub region.
- Infrastructure network limits external connectivity of the Libeň area.
- Local citizens of surroundings areas do not favour urban development.

## Urban Village

### Opportunities

- Private owners of Kuchynka favour development of urban services on their plots, such as kindergarten, elementary school and orchards.
- Unbuilt public space in Kuchyňka offers room for further urban development.
- Economical activities of allotment - and community gardens are expanded.

### Threats

- Lack of resources and coordination limited development of urban activities.
- Lack of willingness of local citizens to cooperate with the municipality in management of green spaces.

3

## Current situation

### Strengths

- Bílá skála is an interesting natural area due to its geological formations.
- Broad and unobstructed view of the city.
- Availability of means of communication among Prague 8 and local citizens, such infocalan Praha 8.
- Park Pod Korábem is used by a wide variety of people.
- Local food production on the community garden and allotment garden.

### Weaknesses

- Lack of awareness about ways of communication between Prague 8 and citizens.
- Low willingness of society to participate on new initiatives for development of Libeň area.
- Fragmentation of interest and ownership leads to unclear distribution of responsibilities and decreases maintenance efficiency.
- Maintenance is not consistent among different sub regions of the area.
- Internal connectivity and external connectivity is limited for humans and other species use.

Figure 16. Overview of SWOT analysis of Libeň area

4

## Chapter 4. Conclusion

The purpose of this project was to study the Libeň hillside and provide opportunities and threats for future directions of the hillside. We used a stakeholder-integrated approach to analyse the current situation of the area. Based on the current situation and the created scenarios, opportunities and threats for the area were identified.

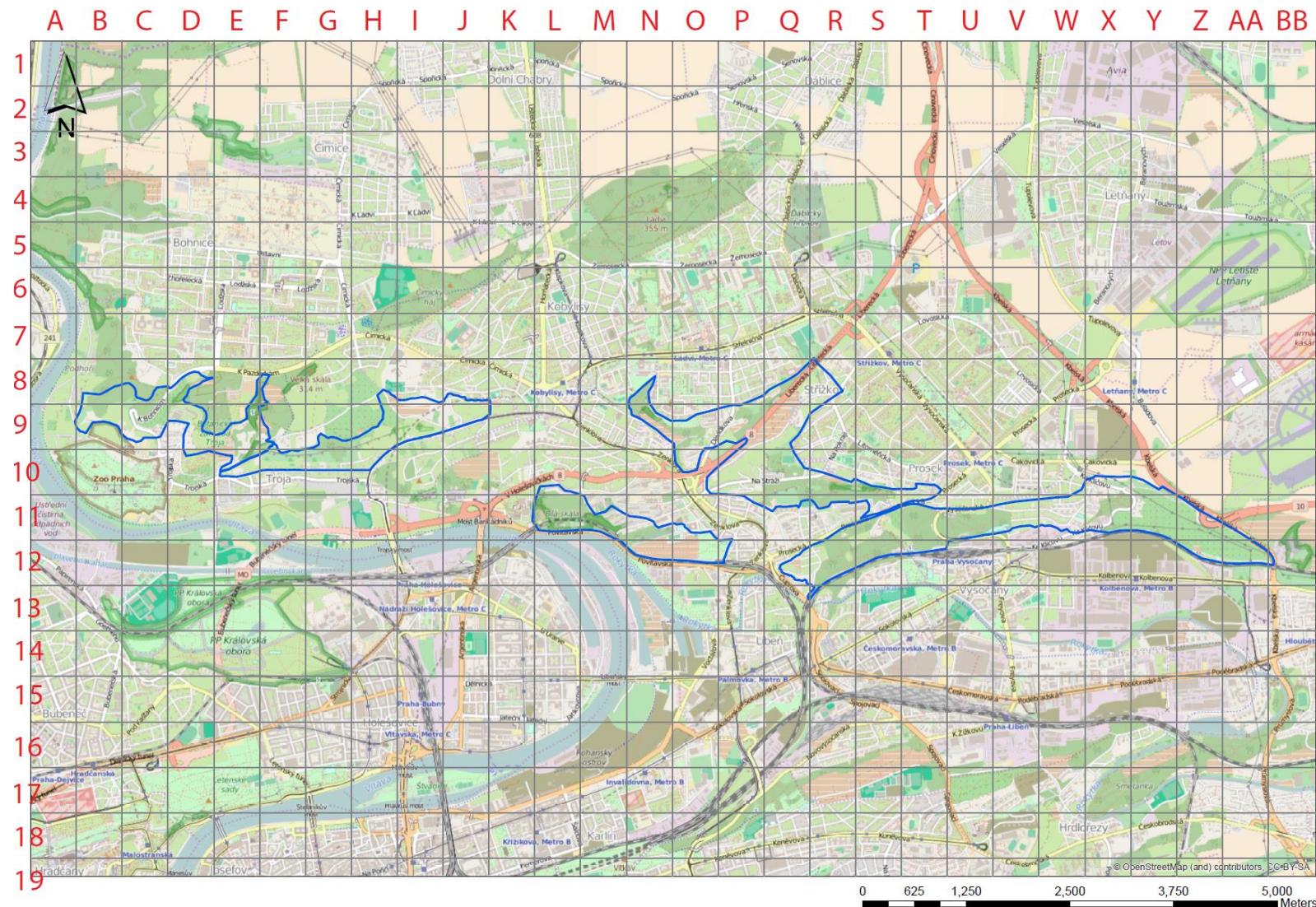
The Libeň area consists of a high amount of green spaces and provides a variety of functions being among others gardening, sports facility and a park. Generally people like the area. However, the potential of the hillside can be optimized, since internal accessibility is a problem and not all parts of the area are equally used, known and valued. Especially Bilá skála is an underutilized and unknown area with potential for nature as well as recreational use. Threatening the future development and management of the hillside, is fragmented ownership and a lack of both resources and willingness of citizens to participate. To conclude, the environmental characteristics and opportunities should be matched with the organisational challenges to reach future improvement in the management and development of the hillside.

## References

- Arnstein, S. (1969). A Ladder Of Citizen Participation. *Journal Of The American Institute Of Planners*, 35(4), 216-224.
- Czech statistical office (CZSO). (n.d.). *Characteristic of the capital city of Prague*. Retrieved from [http://www.czso.cz/documents/10180/20557405/101011-10char\\_eng.pdf/2debab5e-a8cc-4874-b126-9936039a285a?version=1.0](http://www.czso.cz/documents/10180/20557405/101011-10char_eng.pdf/2debab5e-a8cc-4874-b126-9936039a285a?version=1.0)
- Department of Landscape Management FFWT Mendel University in Brno (2014). *Public recreation and landscape protection – with man hand in hand? Conference proceeding*.
- Geoportal Praha. (2016a). *Land use map of the Vysočany area* [map]. Wageningen University, Wageningen: Generated by Jelske de Kraker, June 16, 2016. Using: ArcGIS for Desktop Advanced [GIS]. Version 10.3.1. Redlands, CA: Esri, 2014.
- Geoportal Praha. (2016b). *Ownership of the Vysočany area* [map]. Wageningen University, Wageningen: Generated by Jelske de Kraker, June 16, 2016. Using: Adobe Illustrator. Version CC. Adobe, 2015.
- Geoportal Praha. (2016c). *Air Quality in and around Vysočany hillside* [map]. Wageningen University, Wageningen: Generated by Jelske de Kraker, June 16, 2016. Using: ArcGIS for Desktop Advanced [GIS]. Version 10.3.1. Redlands, CA: Esri, 2014.
- Geoportal Praha. (2016d). *Noise in and around Vysočany hillside during the day* [map]. Wageningen University, Wageningen: Generated by Jelske de Kraker, June 16, 2016. Using: ArcGIS for Desktop Advanced [GIS]. Version 10.3.1. Redlands, CA: Esri, 2014.
- MČPraha8.2015. Aktuality ze životního prostředí. Retrieved June 16, 2016, from <http://www.praha8.cz/Zapojte-se-do-hlasovani-o-revitalizacich-parku.html>
- MČPraha8. 2016. Participativní rozpočet na Praze 8. Retrieved June 22, 2016, from <http://www.praha8.cz/Participativni-rozpocet-na-Praze-8.html>

## Annex 3.1

### Annex 3.1.1 Grid map for observations

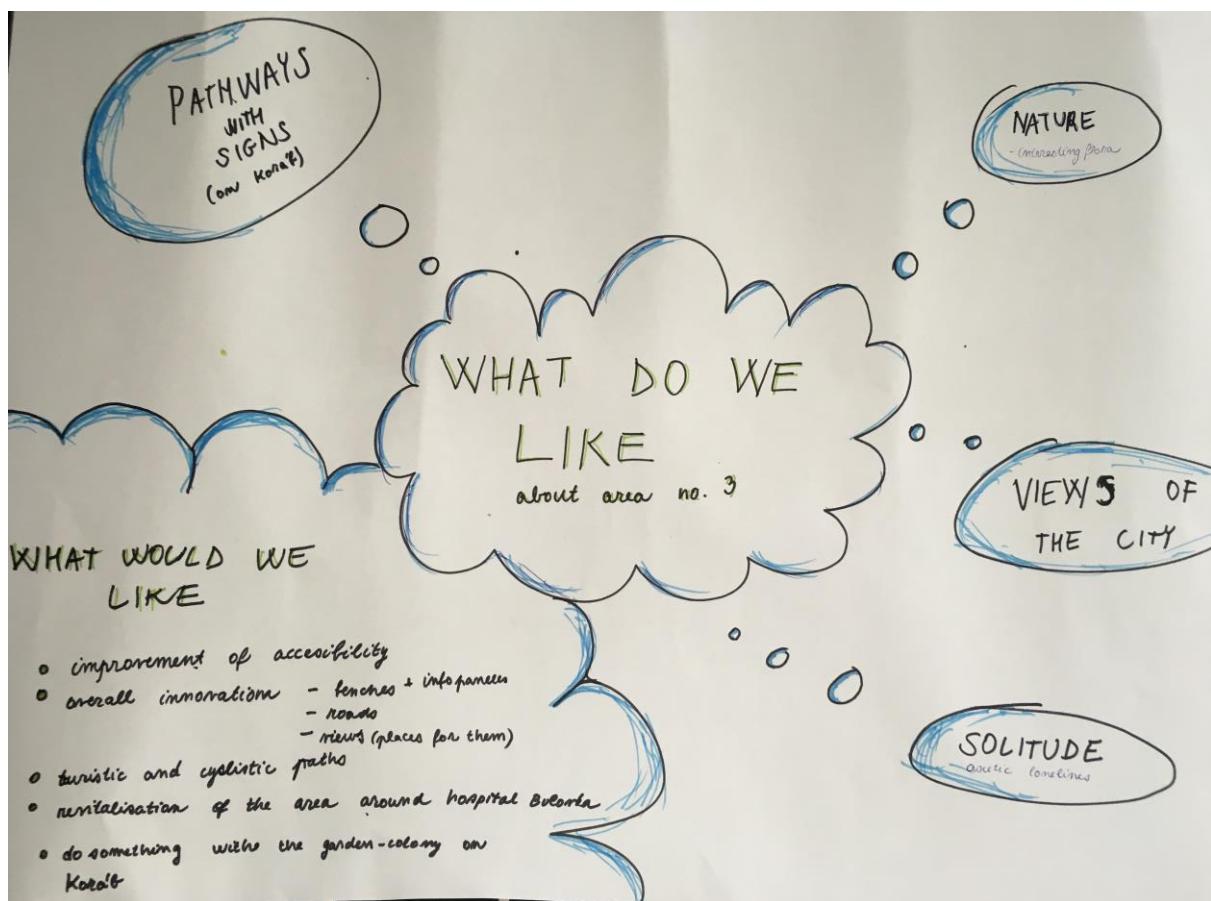
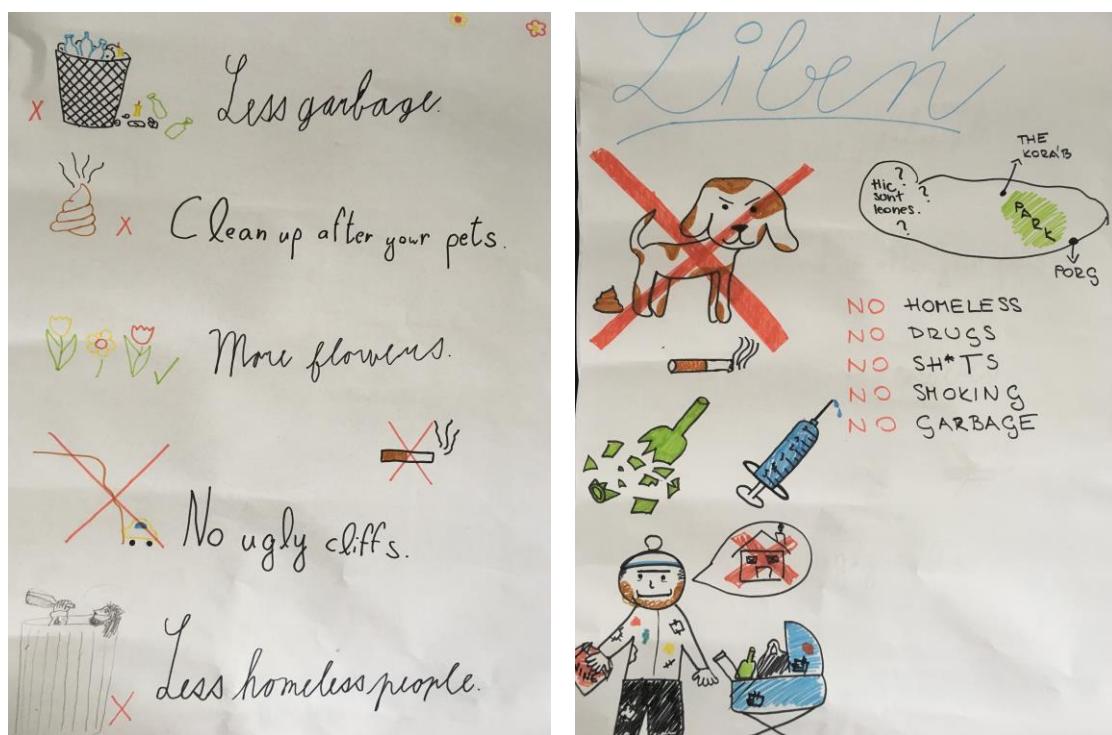


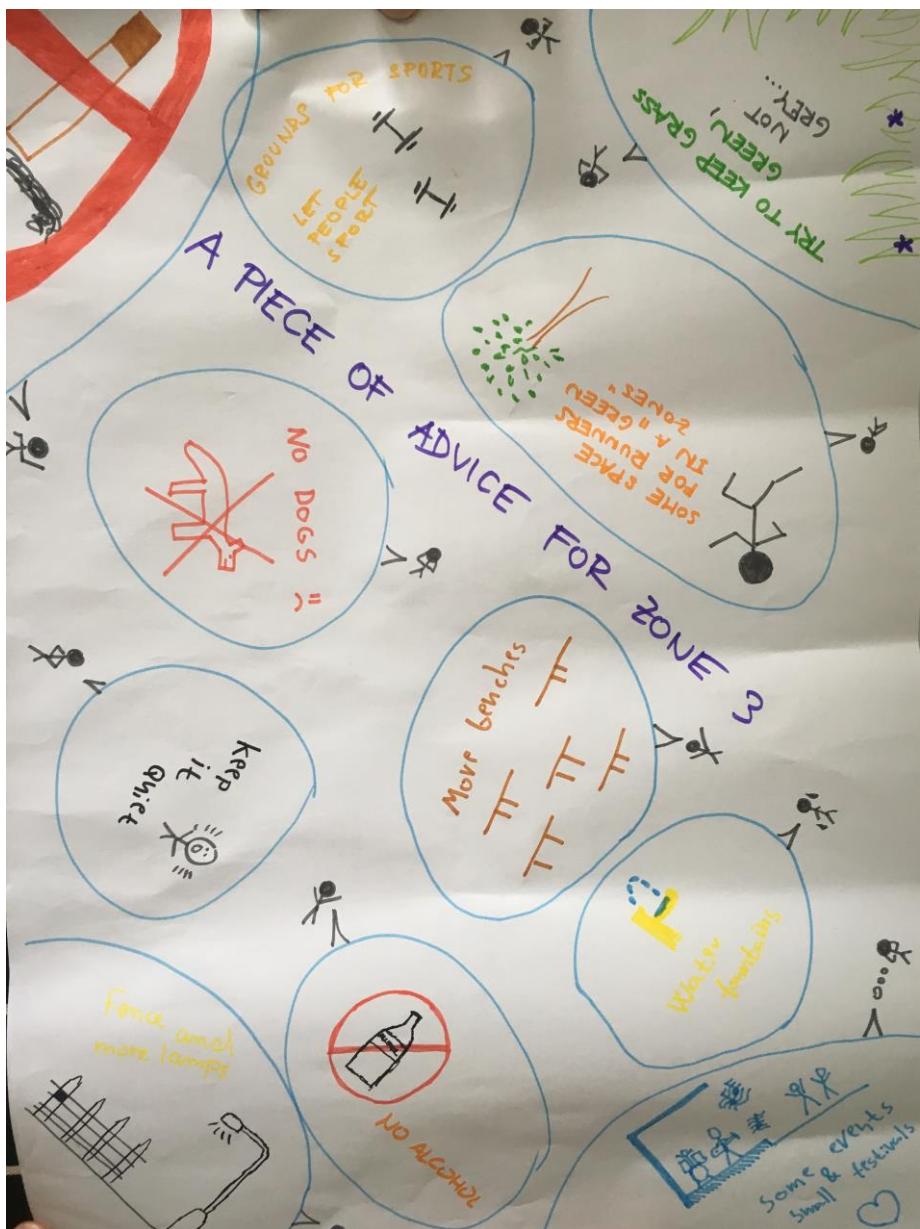
Annex 3.1.2 Table for interviewees

Interview №	Interviewees
Interview 1	Representative of hospital
Interview 2	Representative of IPR
Interview 3	Lecturer of the university in the faculty of Civil Engineering
Interview 4	Representative of School
Interview 5	Representative of IPR
Interview 6	Representative of IPR
Interview 7	Representative of the municipality
Interview 8	Representative of sports center
Interview 9	Representative of the district of Troja
Interview 10	Manager of the site
Interview 11	Allotment gardens coordinator
Interview 12	Representative of public perception department IPR
Interview 13	Representative of IPR
Interview 14	Representative of IPR
Interview 15	Representative of IPR
Interview 16	Representative of IPR
Interview 17	Landscape architect
Interview 18	Representatives of allotment garden
Interview 19	Representative of municipality
Interview 20	Representative of botanical garden
Interview 21	Representative of district 8
Interview 22	Representative of IPR
Interview 23	Representative of municipality
Interview 24	Representative of apple orchard
Interview 25	Representative of Zoo

Interview 26	Representative of vineyard in Vysočany
Interview 27	Representative of allotment gardens
Interview 28	Representative of Prague 7
Interview 29	Representatives of NGO
Interview 30	Representative of community garden
Interview 31	Representative of Prague 9
Interview 32	Representative of NGO
Interview 33	Representative of Prague 8
Interview 34	Representative of NGO
Interview 35	Representative of IPR
Interview 36	Elderly residents
Interview 37	Local Roma people

Annex 3.1.3 Output of workshop PORG gymnasium





# POSITIVES (+)

- Architecturally interesting concept
- Several benches placed at strategic positions (Park Pod Karábjem)
- A beautiful and panoramic view of Prague
- A relatively quiet and calm neighborhood near the center of Prague
- An educational trail about various exotic plants in the park
- A children's playground in the park
- Accessible via public transport
- Clean air in the neighborhood
- Students have the opportunity to walk and relax in several parks nearby

# IMPROVEMENTS & SUG.

- Better maintenance and services
- Large scale cleanup of the whole area
- Stricter regulations and controls of illegal dumping ground and construction sites
- Better pavements in the path areas



## RECOMMENDED



More bags for animal excrements

Nicer park benches

More bins

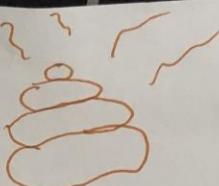
Add more playgrounds



Park maintenance

Cutting overgrown plants  
and trees

Trash collecting



Kora'b

