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# TROJA I REPORT

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## Chapter 1. Introduction

Welcome to Troja I, which is located on the northern hillsides of Prague near the right bank of the river Vltava (figure 1). The area is defined by IPR Praha and has a total surface of 48 hectare. Troja I is part of the city district Praha Troja and of the administrative district Praha 7. The area is surrounded by several cultural attractions like the Prague Zoo and Troja Palace (Trojského zámku). The Botanical Garden (Botanická Zahrada) is partly located inside the area. In the north, the area borders the neighbourhood Bohnice. The cultural hot spots attract around 1.5 million people each year from all over Prague, the Czech Republic and from outside the country (Interview 25).

Troja I has all the qualities to become an even more attractive area, where human activities and nature go hand in hand.

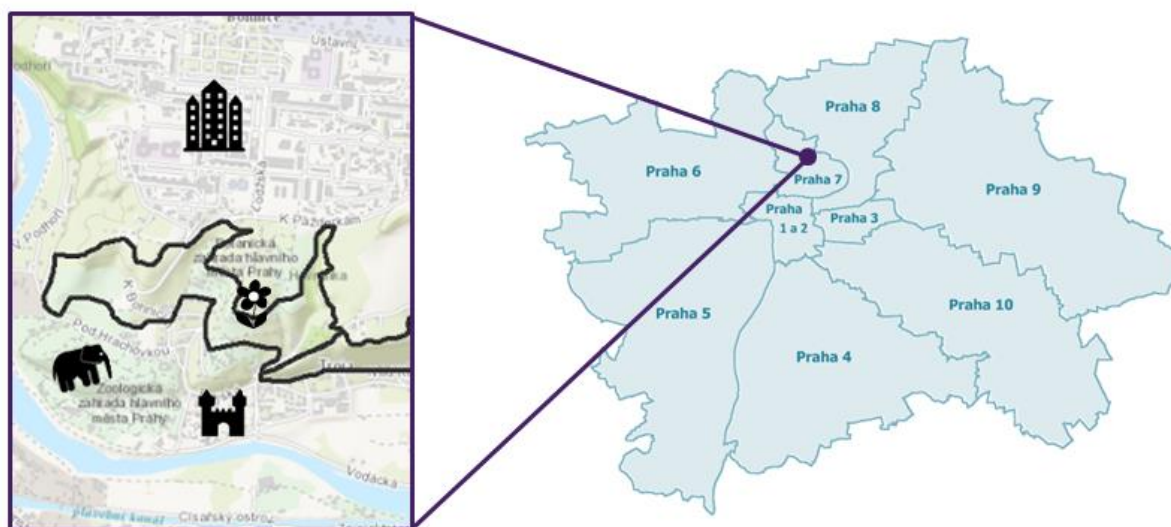


Figure 1. Location Troja 1

To make sure that all issues regarding the area are covered, data was collected through extensive research in literature and other sources, through observations, interviews with experts and stakeholders, and questionnaires. A more elaborate methodology of the overall research can be found in Annex 1.1.3.

The report starts with a chapter about the results of the findings of the fieldwork. This chapter is split in two parts; those regarding the environmental aspects of the area, and those related to the organisational side. In the third chapter these results will be divided over multiple themes that are used to develop several possible scenarios. Depending on the possible future direction to where the area may develop, opportunities and threats are indicated.<sup>1</sup>

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<sup>1</sup>Note: This report is part of the synthesis report. For further information read also the synthesis report. Where necessary, references to the synthesis report are provided in the text.

## Chapter 2. Key Research Findings

### 2.1 Environment

In this chapter the findings, regarding the environment of Troja I, are presented. They will be analysed according to the Dutch-layer approach of Priemus (2007). This approach divides the area in three layers: the physical, the network and the occupational layer. The layers will be discussed in the following paragraphs.

#### 2.1.1 Physical Characteristics

##### *Geomorphology*

Troja I is part of the Prague plateau. The area is geologically formed from foliated metamorphic rock type of phyllite slate (Trunečková, 2011). These rocks were easily susceptible to erosion and form poor shallow soil types. Velka Skala is a rocky mountain at the edge of Troja I and south of Bohnice, with a clear sight on the city, without any obstructions. The presence of trees, grasses and shrubs plays a pivotal role in reducing extreme soil erosion, land degradation and landslide (Menashe, 1998). In Troja I there are different kinds of vegetation, when compared to the previous land cover, the area is degrading and trees are cutting down. This is due to the introduction and expansion of urbanization, overexploitation of resources, fertilizers and the increase in pesticide application in the region. Woodlands and hedges are the main protecting instruments of the region from windbreaks. Moreover, the soil organic matter and nutrient content will be directly or indirectly improved due to the presence of vegetation (Santiago & Wright, 2007). Vegetation also increases the water retention capacity, pollination, biological control (control pests and vector borne diseases) and access to clean air. According to our observations, in some of the steep areas and foot paths there are signs of soil erosion and land degradation due to lack of maintenance and management.

##### *Hydrology*

There is a little stream starting and flowing around the E9 observation area (see grid map, annex 1.1). However, the stream is not clean, and according to locals, not available for drinking. It has a little bridge, some stairs and banisters. There is also a small shelter built at the place of the spring, which was previously used to keep fish. However, it is not in use anymore and full of garbage. Due to the steep sides, eroded parts and vegetation loss on the slope were remarked (E9 observation).

##### *Ecology*

The Zoological Garden, Salabka natural monument, Natura 2000, public spaces and other protected nature sites form a habitat for different species of animals and plants in Troja I.

Prominent animal species in the area include wild pigs, ground beetles and phytophagous (plant eating) insects, such as butterflies, *Bradycellus ruficollis*, *Harpalus rufipalpis*, *Trachyploeus bifoveolatus*, and weevils (Bidlová, 2009).

There are many types of trees in Prague, mostly deciduous trees with only some pine trees existing; luminance spruce, sycamore, field maple, oak trees, blackthorn and cherry (Interview 1).

##### *Air quality*

The presence of rich biodiversity and vegetation in Troja I creates important biological services, such as air quality purification. The availability of this vegetation both directly and indirectly improves the quality of the surrounding atmosphere. On the one hand, trees have a capacity to reduce temperature, remove carbon dioxide and release oxygen to the surrounding atmosphere. On the

other hand, vegetation has the ability to improve the air quality that promote the health of the environment and improves access to clean air for human beings. However, the type of trees, the structure and the shape of the canopy determines their importance (Doick, Peace & Hutchings, 2014). Due to the presence of high vegetation cover, Troja I has comparatively good air quality.

### 2.1.2 Networks

In this subchapter the internal and external accessibility of Troja I will be discussed. Troja I is connected to Troja II in the east and together with this area works as a green corridor from east to west and vice versa. This biocorridor facilitates the movement of habitats between the two areas. However, they are not well maintained and on the west side, the area borders the river Vltava, along the river and towards the north the green corridor continues. The hillside is perceived as a green obstruction between the neighbourhood Bohnice in the north of Troja I and the city centre of Prague. The Botanical Garden, located in the middle of Troja I, disconnects the east and the west of the forest by fences and can be seen as a barrier for movement of animal species and humans.

The accessibility of Troja I is well developed, internally and externally. Figure 2 below shows that the area has walking, cycling, and public transport routes to access and cross the area. One asphalt road crosses through Troja I towards Bohnice. The walking paths inside the area are mostly made of sand (with gravel), cement steps with wooden bridge stairs and old foot paths. Due to these paths, it is easy to access the internal parts of the area. However, there are multiple fences in the area. The ones surrounding the Salabka vineyard and the Botanical Garden are some examples.

Troja I is also accessible externally by car, bike, bus and ferry using the area entrances. However, not much parking sites are available.

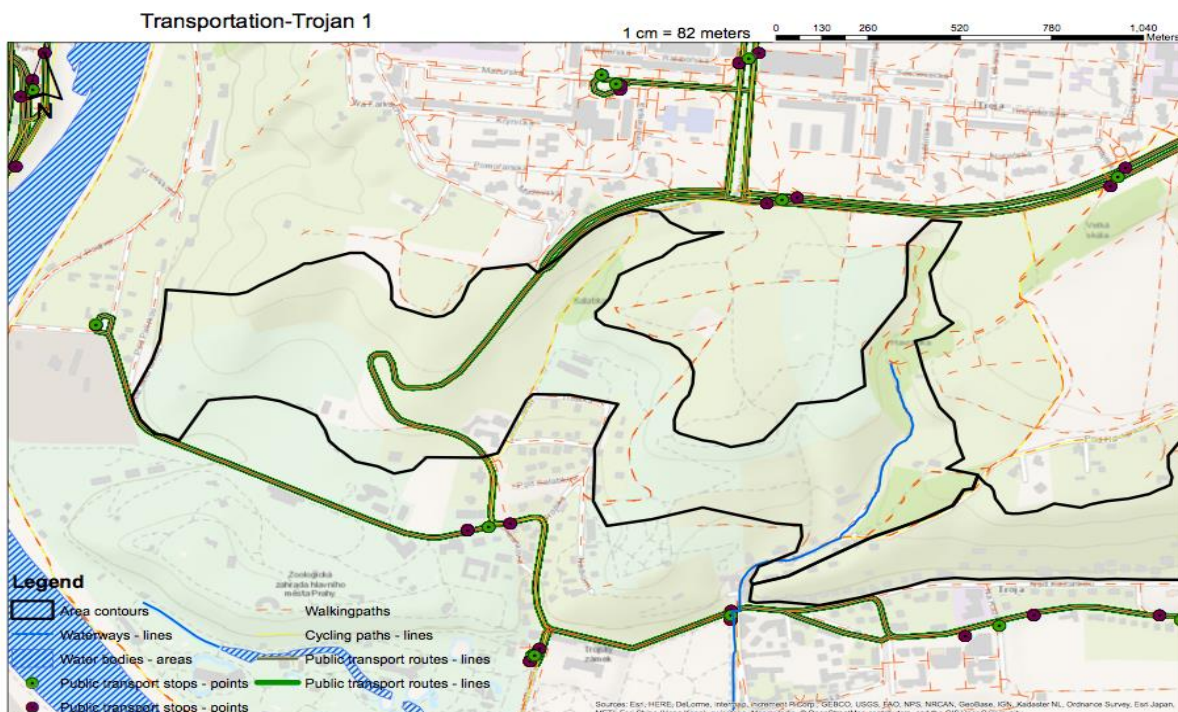


Figure 2. Transportation routes in Troja I

### 2.1.3 Societal Presence

#### *History and Cultural importance*

Historically the area of Troja I was used for vineyards, orchards and other agricultural purposes. The south oriented slopes of the hillside created suitable conditions for such land uses (Interview 17). These land uses can still be found on the hillsides; vineyards and old orchards with cherry trees, among others, are still present in the area.

Before the soviet era, the hillsides was divided in several plots, with different owners that cultivated their land in several ways. During this era, when the Czech Republic was under soviet influence, all land was seized by the state and considered to be commonly owned. When the communist regime fell, the land was given back to the initial owners or their descendants. Many of these people moved somewhere else or found a profession different than farming. This led to abandonment of several privately owned plots on the hillsides (Interview 22).

Over the years (figure 3) the vegetation in Troja I changed from agricultural to more natural. The area also attracted people, and houses were built on the hillsides.

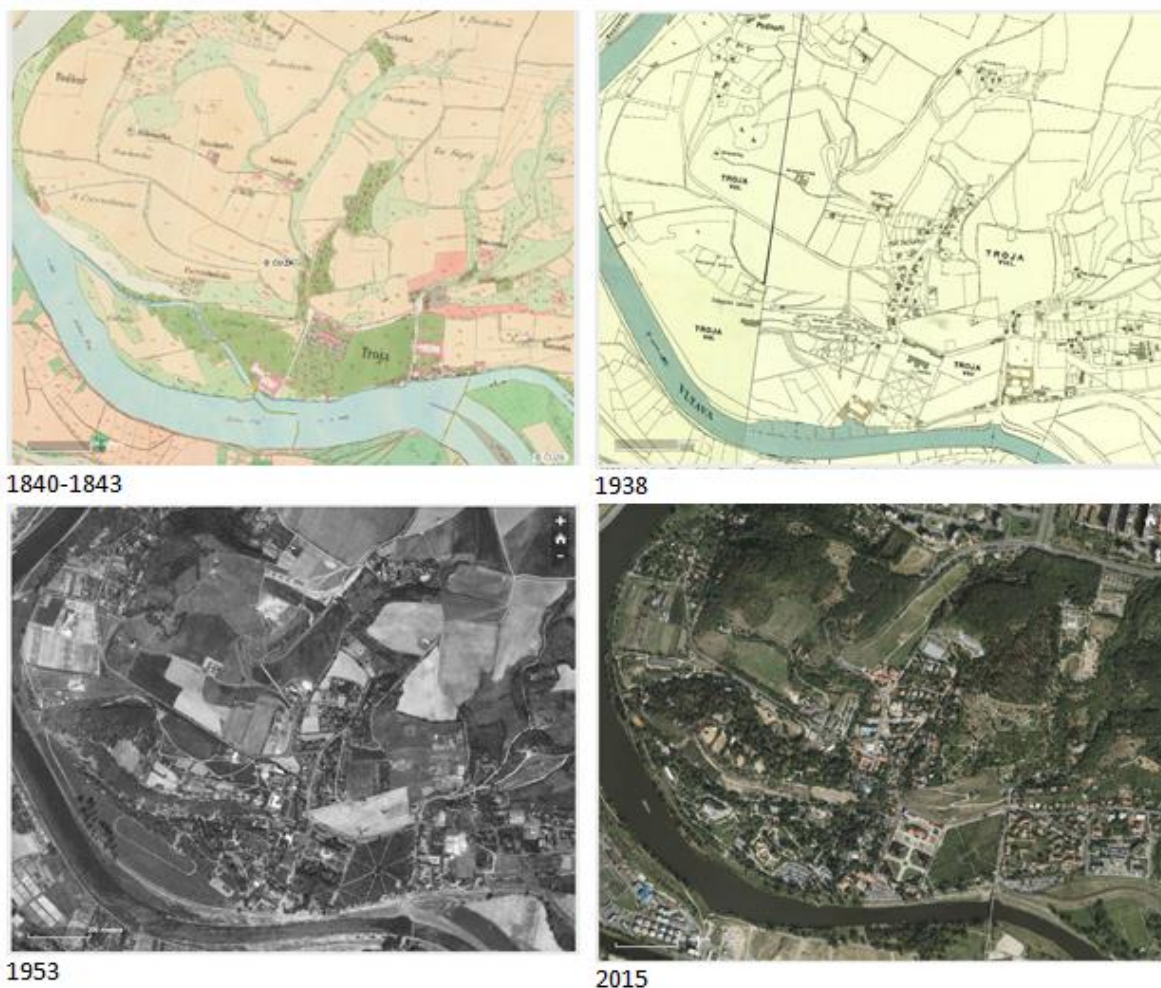


Figure 3. The area Troja I over the years (DVE Prahy, n.d.)

### Aesthetics

According to the interpretation of the observations, Troja I has high aesthetic value. The natural area is beautiful, attractive and creates a mood of relief. The availability of different trees, bushes, grass, topography of the area, and the rock mountains give ideal view for the visitors. Moreover, the Botanical Garden and the Fata Morgana (greenhouse west of the Botanical garden) have unique, scientific and endemic vegetation types making the area more appealing and attractive.

### Viewscope

In some parts of the hillside (E10, G10, G8, D8) it is possible to see the city of Prague and buildings fully or partially. However, it is difficult in other parts (E9) to have such a viewpoint because of large trees and other vegetation. Although, the external view of the area is mainly obstructed by big houses and buildings, the hillside is visible from some parts of the city.

### Land use

The hillside consists mostly of natural areas that are open to the public. The natural areas in the north are mostly covered by forest (Figure 4). Within these natural areas there are two Natura 2000 areas (Interview 23). After nature use the land is mainly used for the production of wine by a private company called Salabka. A number of private plots with residential buildings are located in the south and east of the area.

Occupational layer - Troja I

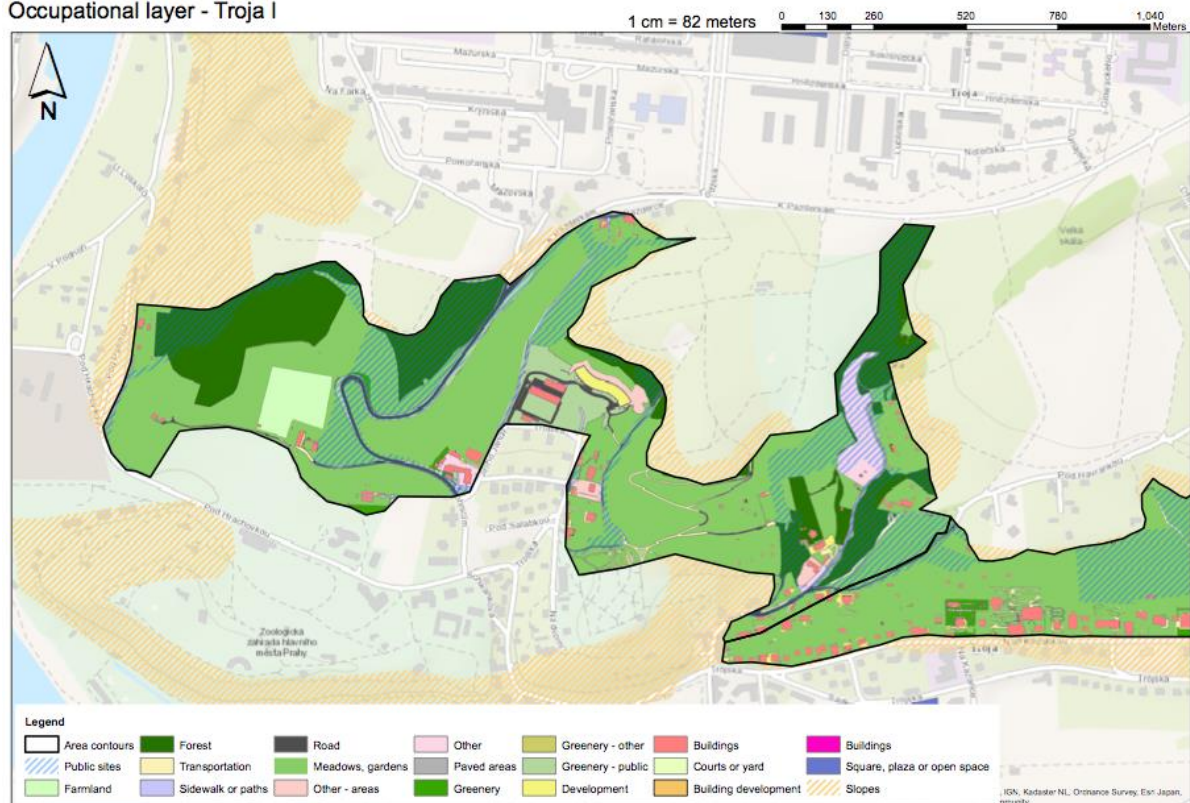


Figure 4. Occupational layer - Troja I

### Human use

The area has a rich recreational attraction due to the available private and public protected sites in the area. The public spaces of Troja I are open for the community and are used for nature walks, leisure time, sports and fruit picking. Most of the visitors indicate that both nature walks and leisure time are the most important reasons to visit the area (Figure 5).

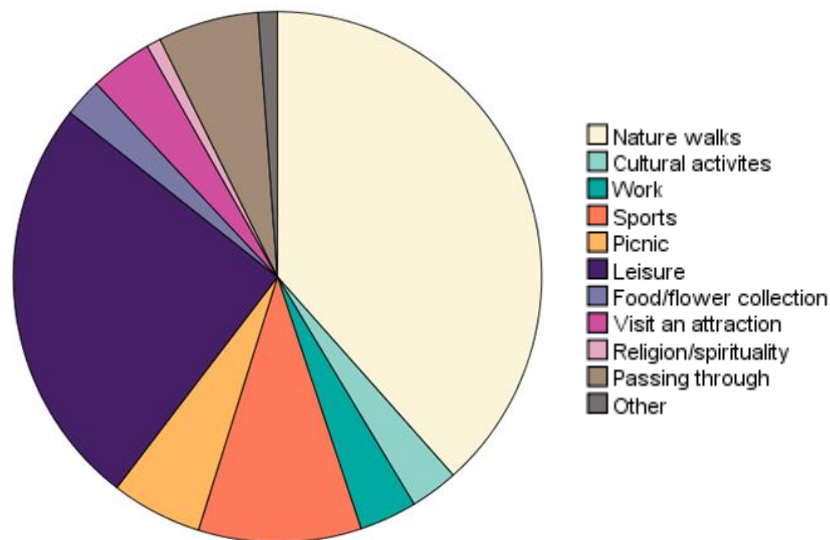


Figure 5. Human use - Troja

The results of the questionnaires show that the majority of the people visit Troja I one or multiple times a month. There is no big difference in the amount of visitors during the week and in the weekends. During the year there is only a slight variation in visitors, a small dip can be found during winter and a small peak is shown in summer time. People usually visit the area with their family, partner, children, colleagues, alone or with the dog. Only a very small number of people visit Troja I with friends.

The area also has a high potential for more nature education. An example is the area around location D8 (Grid map). In this area there are many different signs and information boards explaining the special plants and geological features of the area (D8 observation).

### Noise

In most parts of Troja I it is possible to hear cars and the sounds from the construction areas, especially near the roads and buildings (G8 & E9 observation). The noise coming from the vineyard during pesticide application also disrupts the silence inside the forest (D8 observation). However, there are some parts of the hillside where it is possible to only hear the birds and some distant sounds from human activity, such as traffic (E10 observation).



## 2.2 Organisation

### 2.2.1 Metropolitan Plan

Commissioned by the City of Prague, IPR has delivered a new plan for the development of the city, the Metropolitan Plan (IPR, 2016). This plan will replace the current Strategic Plan when accepted by the District Municipalities as well as the City. The current deadline for the acceptance process is set on 2020 (Interview 35). The Metropolitan Plan is the main view into future development of policies concerning the planning of the City of Prague. The plan categorizes plots of land and sets site specific boundaries and opportunities for development. These can be viewed by the different colours and grid lines. Figure 6 below, shows the current Metropolitan map of the Troja I, with the indication of two points of interest.

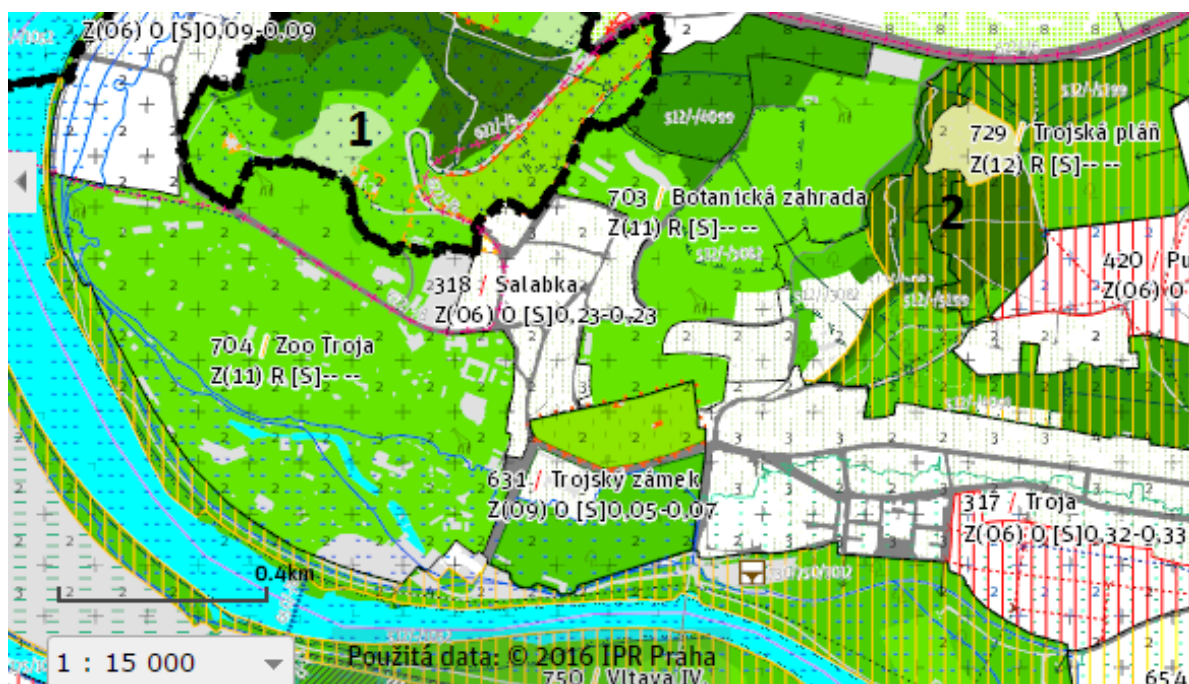


Figure 6. Metropolitan Plan map - Troja I (IPR, 2016)

Point number 1, located in the left side of the map, is a field above the northern borders of the Prague Zoo. According to the Metropolitan Plan, the area there is protected and the landscape should remain stable. However, the place is used as a parking lot for the visitors of the zoo, which alters and puts pressure on ecosystems.

The second area that seems to be interesting, point number two, is a green sight with deciduous tree vegetation located in the right side of the map. The plan considers this area available for transformation for recreational purposes, despite the fact that it is a designated natural protection territory, managed by the Nature Conservation Agency (AOPK). Furthermore, in this area there are also allotment gardens, complicating the management possibilities.

### 2.2.2 Stakeholder Analysis

Defining the perspectives and the interrelations between the stakeholders active in the study area is crucial for the development of the possible opportunities and threats. In this chapter the main actors concerning the area will be described. Figure 7 presents the stakeholders into three different categories, i.e. governmental, economical and societal, and depicts the relations between them.

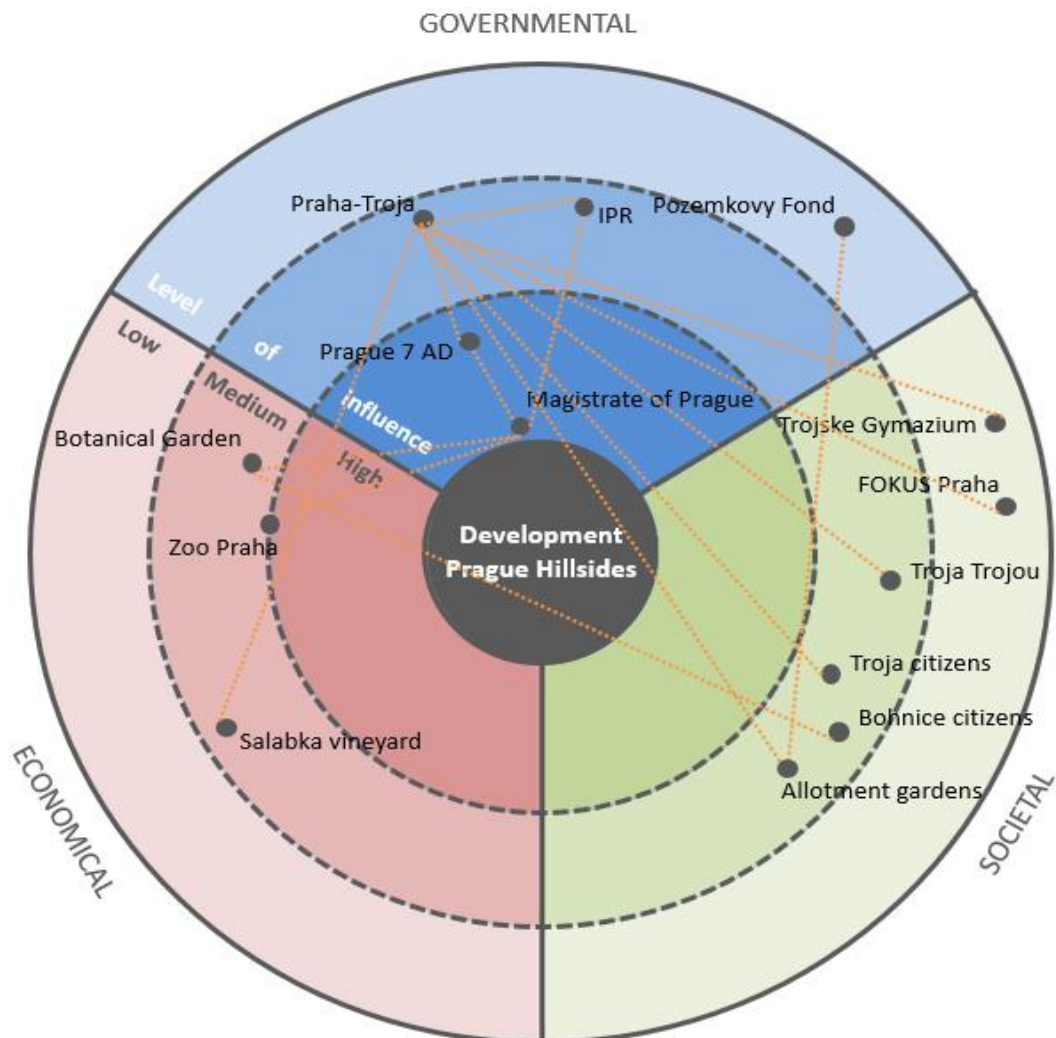


Figure 7. Stakeholder power of influence and interrelations

Prague - Troja District Municipality - Prague Troja municipality formerly belonged to Prague 7 district but became an independent and self-governing authority in 1992. Although it has a high interest in the development of the area, their responsibility level prohibits them from decision-making. However, the municipality is willing to influence the situation, hence, operates as an initiative trying to cooperate with public and private actors. For instance, they address the Prague 7 administrative district in some cases or they even hold fundraisers events and try to collaborate with private owners for maintaining and managing neglected plots (Interview 9). These efforts are usually not successful, nonetheless the municipality insists that the communication between the stakeholders and the owners of the plots should be enhanced. Praha Troja municipality's opinion for the further development of the area is to maintain it as a natural park. Furthermore, they promote and support vineyards and cooperative gardens as a possible land use (Interview 9). The municipality has good connections with organisations that are active in the area, such as the NGO Troja Trojou,

Fokus Praha (a group of therapists that aim to help people with mental disorders and schools located in Troja), and Trojske Gymnazium (Interview 7).

**Magistrate of the Capital City of Prague** - The Magistrate is the owner of the majority of Troja I area. Apart from plots, the Capital City is also the owner of the Prague Zoo, the Botanical Garden and the Troja Palace which currently operates as an art gallery. The first two attract around 1.5 million tourist each year and are considered as significant actors in the area. Thus, they are further described below. The Magistrate is involved with decision-making processes, concerning only the plots that belong to the Capital City.

**Prague Zoo** - The Prague Zoo, currently celebrating its 85th anniversary, is considered to be one of the biggest and most visited zoological gardens in continental Europe. More than 1.3 million people visit the zoo each year and 30-40% of the visitors are not citizens of the Czech Republic. The zoo is owned and financed by the Magistrate of Prague, but it is considered as a profit-making organisation. The number of employees reaches 300-400 people. The facilities within the zoo, such as food service and shops, are operated by private tenants. Furthermore, the zoo is active on a research level, as it is involved in three scientific programs; to educate people from Cameroon about gorillas, to reintroduce the Przewalski's horse in Mongolia and to preserve the Gharial crocodiles in India (Interview 25).

Despite the fact that there are already four different entrances to the park, the zoo is planning on building an extra one. Besides, the zoo faces problems with parking spaces for visitors, who often use green areas for their cars. Moreover, the area is difficult to access, since only two public busses lead to the place. Although the existing zoo infrastructure covers a big area, flooding problems in the lower part near the Vltava River have led to plans for building new pavilions in the northern part, which will accommodate animals. Praha Troja municipality opposes this prospect, as according to them, it will alter the ecosystem of the area.

The Prague Zoo, the Botanical Garden and the Troja Palace offer visitors the opportunity to buy a joined ticket for all three sites. However, even though all three companies are owned by the Magistrate, they consider themselves different and do not want any further cooperation (Interview 25).

**Botanical Garden** - The garden began to operate in 1968, but became open to visitors only in 1992. A large area of Troja I belongs and is managed by the garden. Likewise the zoo, the Botanical Garden is also a Magistrate's organisation. A new director was recently recruited, an event that may alter the future development. The garden employees over one hundred staff. Apart from a fenced open area, the garden also owns the Fata Morgana greenhouse and the Svata Klara vineyard which last year produced 17.000 bottles of wine. Along with the exhibition part, the scientists of the Botanical Garden are responsible for other research projects, such as the cultivation of a rare Vanilla orchid from Vietnam. Aside from the exhibitions, the public relations office of the garden aims for improving their product even more, offering the visitors more reasons to stay in the park, such as playgrounds for children or possibilities for galas. Some free passes are provided to citizens of Bohnice, however this privilege belongs only to people that live in certain streets (Interview 20).

The expansion of the Troja neighbourhood appears to be a threat for the garden. Additionally, the garden considers the public transportation deficient. As stated before, aside the combined tickets, the Botanical Garden does not want any further cooperation with the zoo since a possible collaboration would not be efficient due to the various differences of the two organisations (Interview 20).

*The Prague Institute of Planning and Development (IPR)* - The IPR is the planning institute of the City of Prague which provides support in policy making on spatial planning matters. It is strongly linked to the City of Prague, since the city provides the funding and (dis)approves IPR's draft and coordinating documents. IPR advocates participative planning and tries to involve the public in its projects. The hillsides and its inhabitants and users are relatively unknown territory for IPR. Moreover, the institution is part of the political process in Prague in which they have little formal power to change the development of the hillsides. (Interview 19).

*Prague District 7* - Prague 7 is one of the city's municipal districts. The north part of the district borders with the municipality of Praha Troja. It is of great importance to separate the municipality from the administrative district of Prague 7. The municipality refuses to have any connection or interest to Troja I, and they only cooperate with Praha Troja about their neighbouring areas (Interview 28). However, the administrative district of Prague 7 provides the permissions for any developing project in Troja, thus it is an important authority in the study area (Interview 9, 22 and 28). In the past, the administrative district has declined the development of a building on a plot in between Troja I and 2 (Interview 9).

*Local citizens/owners of the plots* - Troja is an area that has undergone many changes during the last decades. In the 1950's the vast majority of the plots were used for agricultural purposes. Operations to build Bohnice neighbourhood began during the 1970's, in a time where Troja's vegetation began to change from agricultural to more natural. The residential area in the south part of Troja I has been developed to a luxurious neighbourhood in the last years (Interview 7, 18 and 22). Although houses have been built in the area, the permission to build more has been denied for various plots. This has caused conflicts between the owners and the Prague 7 administrative district (Interview 7). Allotment gardens can be found all along the general area of Troja, usually with small shelters, as it is the only type of housing that is permitted to be built. Again, the ownership state differs: some plots belong to private holders, while others rent the plots from the Pozemkovy Fond (a state land office) (Interview 18). As mentioned before, Salabka is another major stakeholder.

### 2.2.3 Public Perception

During the fieldwork in Prague, questionnaires were handed out to see what people in and around Troja I think about the area. 173 people have filled in the questionnaires, on which the following analysis is based. The analysis is divided in the current perception of the people, media attention, future preferences and public participation.

#### *Current perception of the public*

In general, people state that Troja I has a beautiful scenery (87%). It is perceived as easily accessible from the outside (83%), and the majority (79%) of the people state that they can move freely and easily within in the area. Moreover, the participants feel safe (76%), happy (80%), and healthy (73%) being in the area. Although 72% of the respondents like the hillside as it is right now, still 65% of the total respondents would like to see the area improved. For example, 26% of the people state that there is not enough green public space on the hillside. According to the research, 42% of the people indicate that they would visit Troja I more often if the area would be improved.

#### *Current media attention*

The questionnaire also addresses the media attention Troja I gets. 42% of the participants state that the area is not discussed in the media, however, 37% did not find this question applicable.

Meanwhile, 36% agrees that the attention given to Troja I by the media is positive, but 46% found the questions inapplicable.

### Future preferences of the public

Preferences of what the respondents would like to see improved in Troja I are shown in Figure 8 (based on 100 questionnaires out of the 173, due to missing data). The respondents ranked six options for improvement; sports facilities (e.g. running and biking paths, skateboarding, football/basketball court); leisure facilities (e.g. picnic, reading, children's playground, benches, bins); culture (e.g. concerts, festivals, workshops); nature (e.g. urban agriculture, food picking, different types of landscapes); safety measures (e.g. light, safety near rocky sides, signs); and urban expansion (e.g. houses, apartments, parking lots, shops). Ranking 1, shown on the left side of the graph, represents the most wanted improvements. On the right side of the graph, above number 6, the least wanted changes are shown.

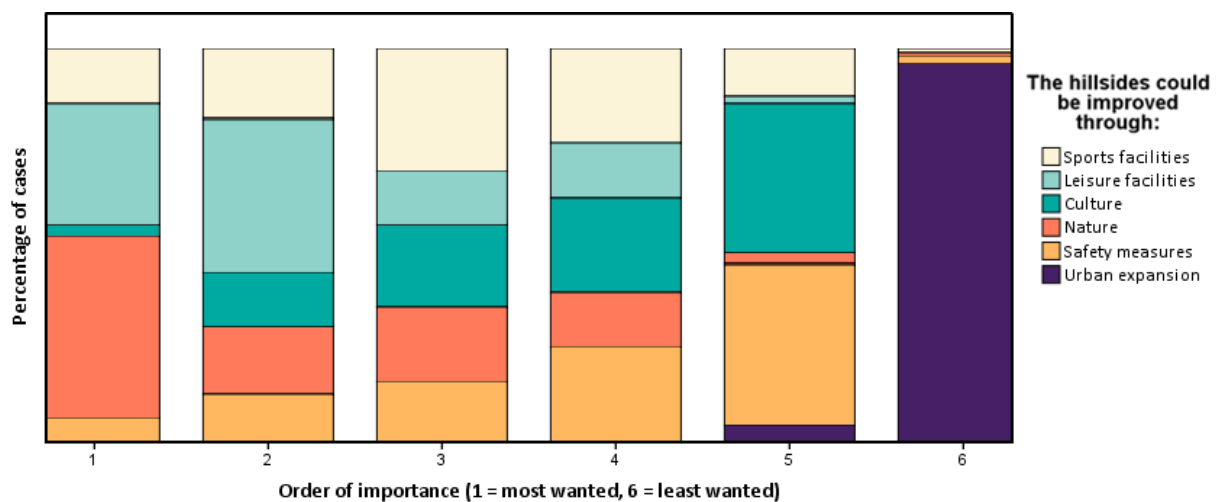


Figure 8. Preference improvement hillside

The graph shows that people would like to see more nature and leisure facilities in Troja I, with the highest percentages of ranking on respectively number 1 and 2. Sport facilities are ranked on all positions, but mainly on the third place. Safety measures and culture are given several ranking positions, but are both mostly as fourth or fifth. Urban expansion, with a large majority of number 6 rankings, is obviously not wanted by the greater majority on the hillside.

### Public participation

The participation ladder of Arnstein (1969) is used to analyse the level of public involvement among the people visiting and surrounding Troja I. The results of the research can be found in figure 13. The ladder includes three levels of participation: nonparticipation, tokenism and citizen control. Nonparticipation is about educating the people, who are a passive audience. In the questionnaires this type of participation was covered by asking the people whether they think that the municipality should develop and maintain the area without public participation. 42% totally agreed or agreed with this statement.

Tokenism includes informing, consulting, and involving the public about the area. The people are given a voice but no real power in decision making. According to the results of the questionnaire, three quarters of the people would like to be more informed about the development of the area. Besides, people in and around the area do not perceive the level of consultation as high. Just 19% of

the participants think that the municipality is open to their concerns and ideas regarding the area, however, 52% found the question inapplicable. Moreover, 38% of the people like to be more involved in the activities and maintenance regarding the area, but here as well 25% thought the question was not applicable. Besides, 42% would like to cooperate with urban experts and contribute with their own ideas, but 20% found this question inapplicable. The last level on the participation ladder covers partnership, delegation, and citizens control. These include more or total decision making power and responsibility for the citizens. Two questions in the questionnaire address this perception of participation. 57% of the people who filled in the questionnaire feel responsible for maintaining the area, however, in small talks with participants this was mainly about picking up trash from others and 55% thinks that citizens should manage the area.

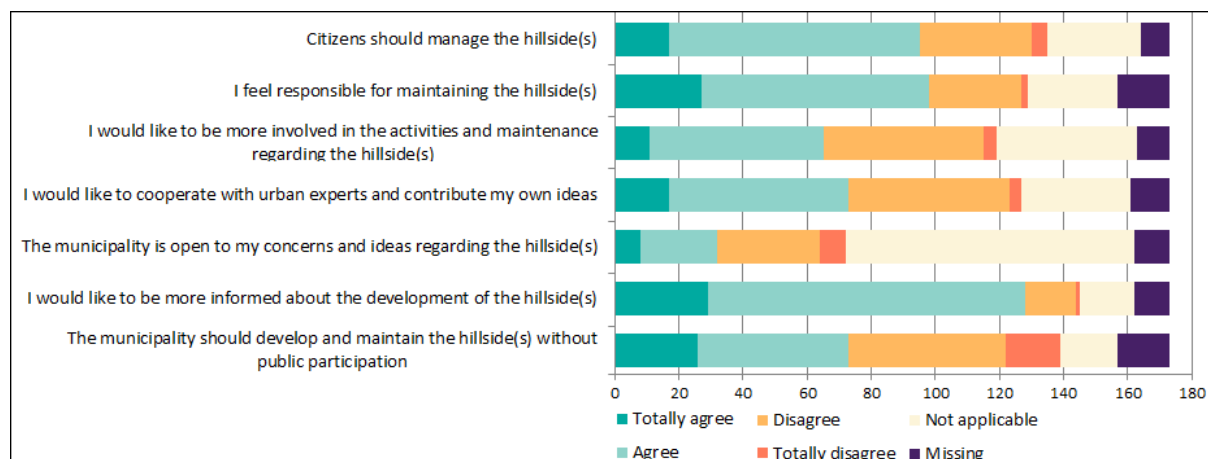


Figure 9. Opinion public participation

#### 2.2.4 Management and Maintenance

An analysis of the current management can best be done by identifying the responsible parties in the area. Responsibility of management of specific plots is related to the ownership of the plot. Below the ownership map of the Troja I is depicted (Figure 10).

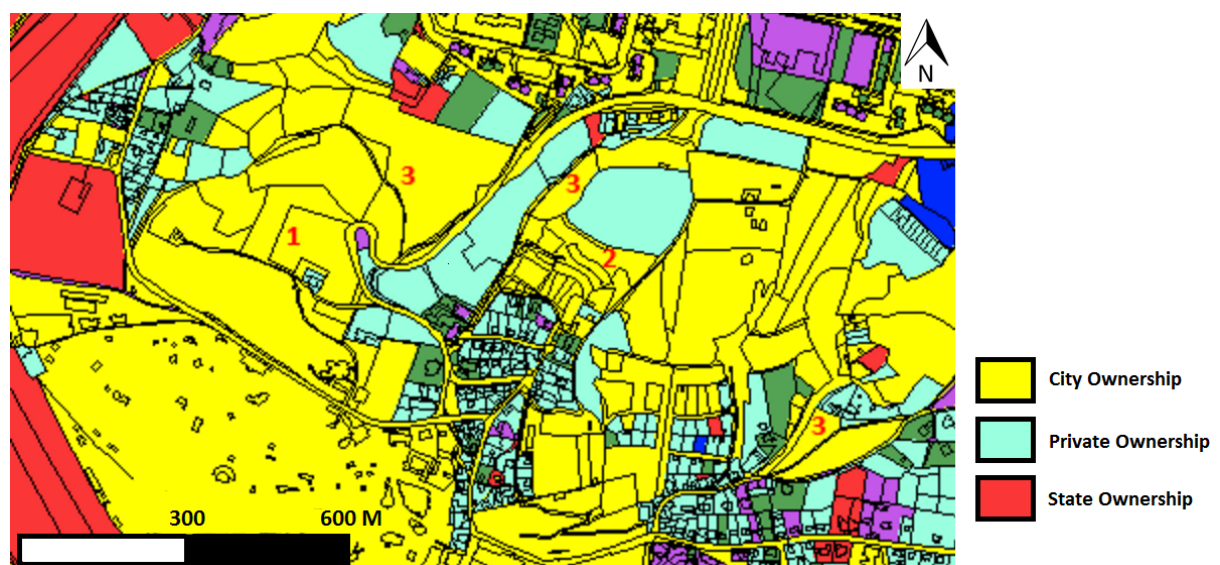


Figure 10. Land ownership Troja I

In Troja I, a distinction can be made between public areas owned by the City of Prague and privately owned areas (Figure 10). In this distinction even smaller divisions can be made, which are very location specific and numerous. Nevertheless, it is possible to highlight some of the important plots and management styles in the area (Figure 10). It is important to keep in mind that there are more parties involved in the management of the area and that this analysis is a generalization of the intricate management system at play in Troja I.

*Public owners*

Within the plots three major public owners can be identified; the Zoo, the Botanical Garden and the City's Nature Protection Agency. All three belong to the city municipality and together they own the biggest part of the area (Figure 11).

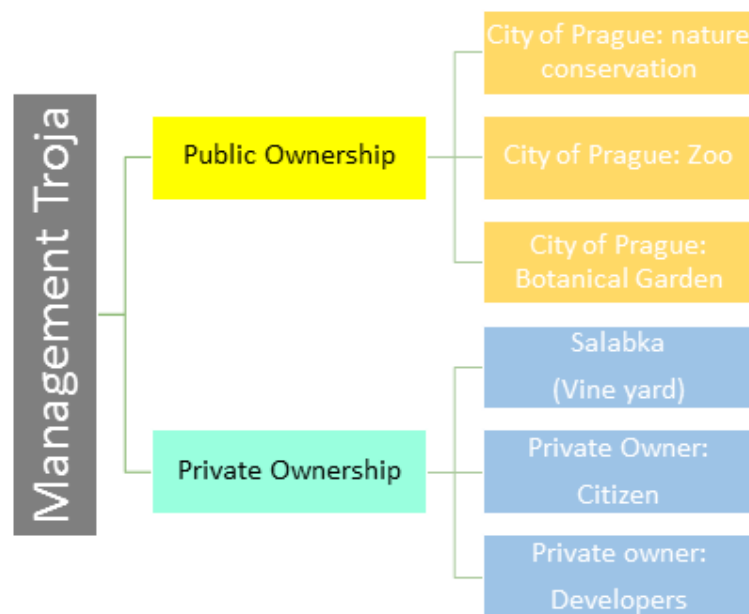


Figure 11. Division management responsibilities Troja I area

The zoo is located south of Troja I, close to the river. However, they own multiple plots inside the area as well (Interview 7). These plots are mainly maintained as grass fields and are sometimes used as parking lots when it is busy at the zoo (Number 1; figure 10) (Interview 7). At the moment these areas do not serve as important habitat for animals although they do have the potential to do so (interview 7).

The Botanical Garden also owns a number of plots in Troja I, especially around the Fata Morgana greenhouse. They take care of paths and plants, and make sure the area stays accessible (Number 2; figure 10). The Botanical Garden also provides different signs explaining the different flora, fauna and geomorphology of the area. These signs are placed around the Botanical Garden and give information about the area (Figure 12).

The City's Nature Protection Agency manages a number of localities in Troja I with nature conservation as a first priority since they are classified as important nature



Figure 12. Information signs

reserves (Number 3; Figure 10) (Interview 23). This nature conservation department of Prague has an annual budget of 10 million Czech crowns per year. They have to divide this over more than hundred localities of which they take care of in Prague. Management of the localities is done by cutting overgrown bushes and invasive trees, and by grazing the areas with sheep and goats.

### *Private Owners*

Besides the public owners, three major private owners can be identified. These are the vineyard Salabka, citizens, and developers.

The vineyard Salabka is the owner of a large part of Troja I. During the growing process the vines are sprayed, which can harm bystanders and possibly the Natura 2000 area close by. It is important to know what kind of chemicals are used during the spraying and to assess their possible impact on the surroundings. The fences around the vineyard are, at some places, in bad state, either rusty or falling apart. This can have a negative influence on the aesthetic quality of the area, especially from a viewpoint nearby. (D8, Observation)



*Figure 13. Spraying of Vines in Salabka*

Besides the vineyard, there are two other private owners. On the one hand, the area is inhabited by citizens who own plots. They manage their own gardens, which are generally in good condition. On the other hand, urban developers are private owners as well. They have an interest in building in the area, however, they are not allowed to do so and therefore they neglect the plot until building is permitted. This is seen as a nuisance and a problem by neighbours, as unmanaged plots can have negative impact on the aesthetics of the area and the overall sense of place.



## 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. The scheme below is a summary of the thematic issues that arose in Troja I:



#### Governance and maintenance

- Land is publicly and privately owned
- Zoo uses grassland inside the area for parking in case they have too many visitors. This land is not zoned for such activity.
- Some plots are privately owned, but urban development is not allowed. Therefore, owners neglect the plot.
- In the vineyards the wine ranks are sprayed. This may harm bystanders or effect nature. This needs to be further researched, since a lot of people, including women with small children, pass by this area and the vineyard is closely located to a Natura 2000 site, with rare species.



#### Development

- There is no urban development in Troja I.
- There is a high interest of plot owners for urban development, since this is a location highly wanted for housing.
- Troja I has many natural areas.



#### Functions

- The area is mostly used for nature walks, leisure activities and sports.
- People often visit the area with their family, partner, children, colleagues, alone or with the dog. Only a very small number of people visit Troja I with friends.
- The area is used to commute between upper Bohnice and downhill Troja.
- There is a zoo and a botanical garden in the area, which together attract around 1.5 million people to the area every year.
- There is a vineyard for wine production, connected to the restaurant Salabka.



## Accessibility

- The internal accessibility of the area is high. Several asphalt walking paths make it easy to cross the area, also with a buggy or for people with disabilities.
- There are several more natural walking paths, made from sand or gravel. Some of them have well placed handrails.
- Inside the area there are plenty of information signs of which some are badly maintained (graffiti or unreadable due to weather conditions).
- There are not many signs outside the area indicating nice walking paths uphill.
- There is a big road through the area (north-south), which makes it difficult for species to migrate.



## Attachment

- Around three quart of the respondents feels more happy and healthy while visiting the area.
- The majority thinks Troja I has beautiful scenery and likes the area as it is now.
- However, a small majority would like to see the area improved (more greenery) and indicate that in that case they will visit it more often.
- A small majority (57%) of the people indicate that they feel responsible for maintaining the area.



## Safety

- The larger majority of the people feel safe inside the area.
- Safety improvements are ranked 5th in possible future improvements ( 1 = most important, 6 = least improvements)
- Next to a steep stair a handrail is placed.



## Ecosystems

- There are two Natura 2000 sites
- Trees, grasses and shrubs play a pivotal role in reducing extreme soil erosion, land degradation and landslide.
- Urbanization, over exploitation of resources, fertilizers and pesticide application
- There are cherry orchards and elderflower trees, where fruits and flowers can be collected to eat or make lemonade of.
- There is a micro-climate, creating good circumstances for wine growing.
- In the east the area is connected to Troja II, creating a green corridor.

### 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 (see figure 18). 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.

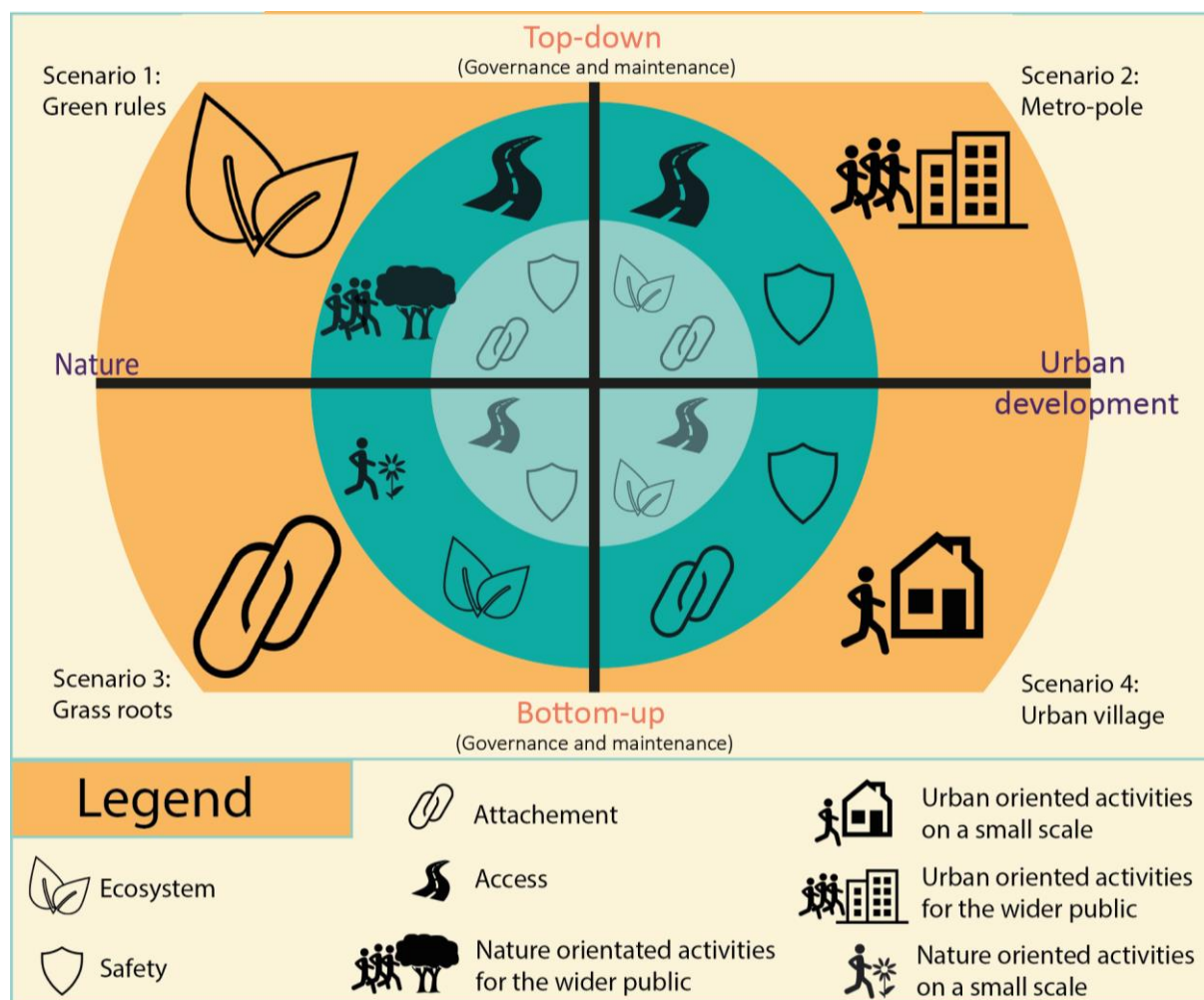


Figure 14. Overview of scenarios

Troja I is mainly top-down managed. The larger stakeholders in the area, district Prague 7, the zoo, the Botanical Garden and Salabka decide what happens in the area and are responsible for the maintenance. Citizens are not involved in the management of the area. Troja I has a lot of natural or

semi-natural areas. This also applies for the main stakeholders in the area, their activities are all nature related.

### 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 Troja I can be found below, in figure 15.

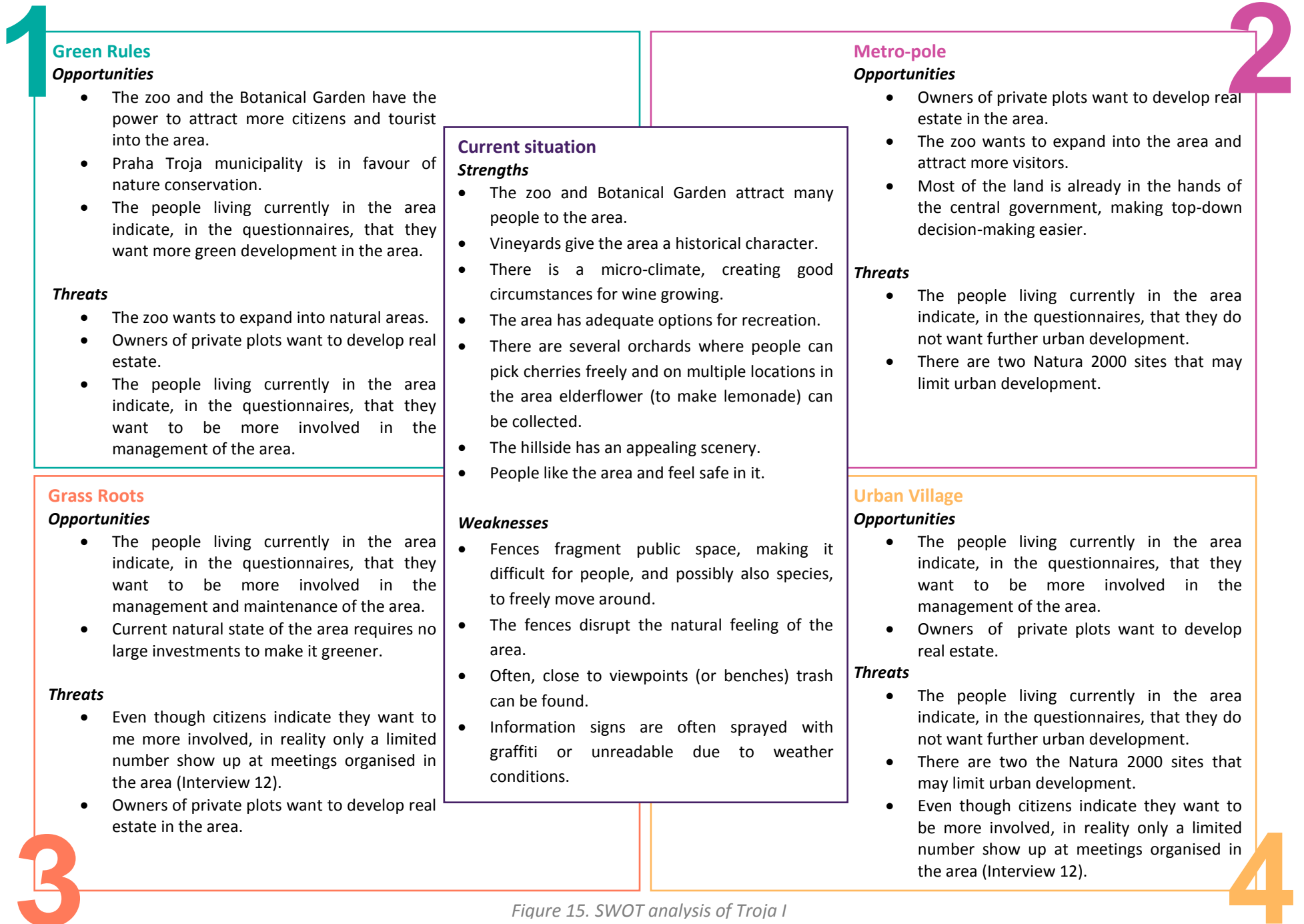


Figure 15. SWOT analysis of Troja I

## Chapter 4. Conclusion

Distilled from the information above, it can be concluded that Troja I is a diverse area with numerous attractive features. The Salabka vineyard contributes to the historical character of the area while the Botanical Garden and the zoo attract many people from all over Prague and beyond. Besides the main attractions, people visit the area for a potpourri of activities such as nature walks, picnicking and sports. Next to the human activities in the area, Troja I houses a variety of species in the diverse landscape.

In order to make sure that the symbiosis between nature and human activities will prosper in the future it is important to contemplate the road ahead. This report can be seen as the start of the journey towards an overall vision for Troja I.

## References

Arnstein, S. (1969). A Ladder Of Citizen Participation. *Journal Of The American Institute Of Planners*, 35(4), 216-224.

Bidlová, V. (2009). Plán péče o přírodní památku Havránka.

Doick, K. J., Peace, A., & Hutchings, T. R. (2014). The role of one large greenspace in mitigating London's nocturnal urban heat island. *Science of the Total Environment*, 493, 662-671.

DVE Prahy, n.d. *Plany Prahy*. Retrieved from: <http://www.dveprahy.cz/>

IPR, (2016). *Metropolitan plan*. Retrieved from <http://plan.iprpraha.cz/cs/upp-dokumentace>

Menashe, E. (1998). Vegetation and Erosion. A literature survey. Greenbelt consulting

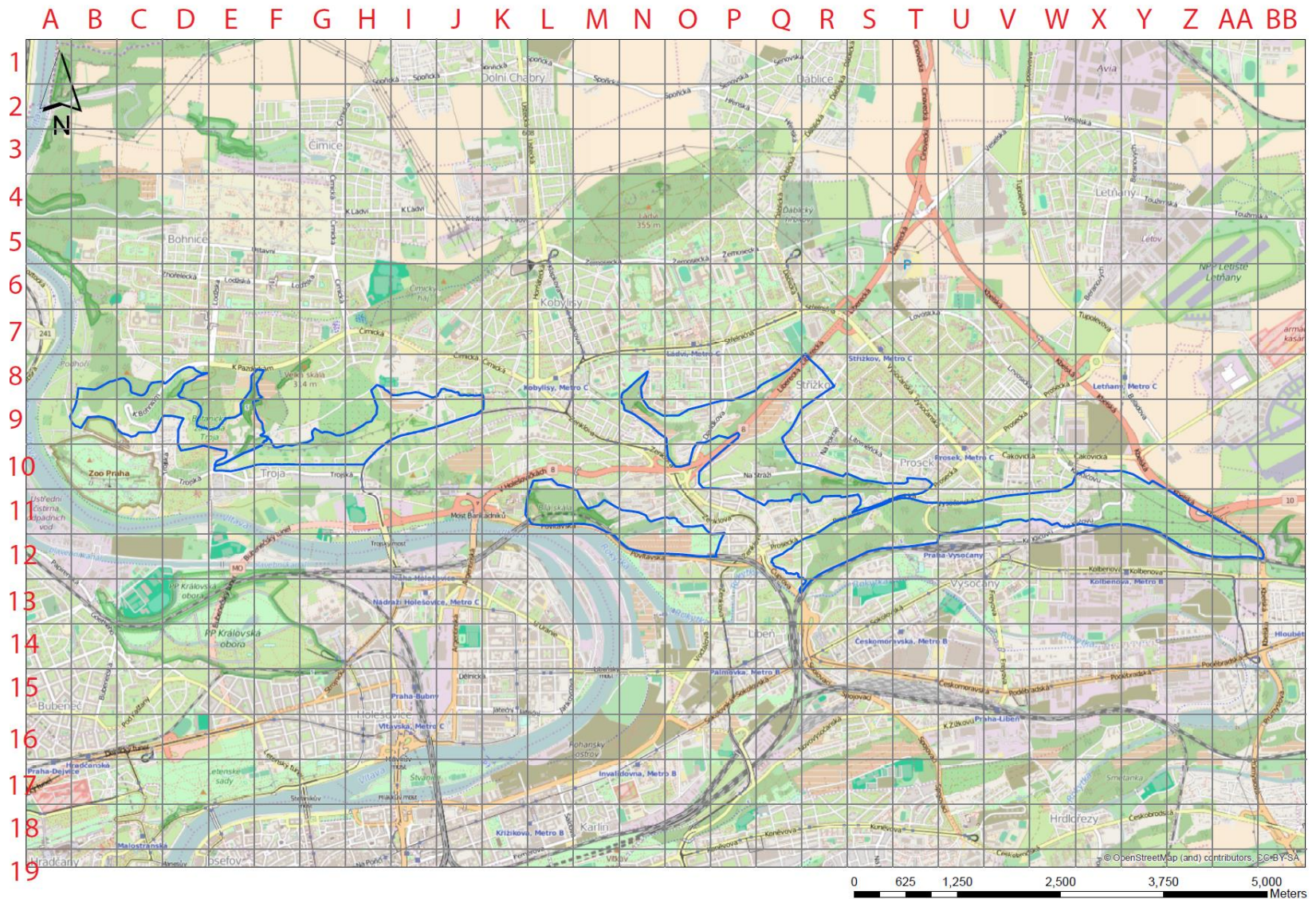
Riemus, H. (2007). The Network Approach: Dutch Spatial Planning between Substratum and Infrastructure Networks. *European Planning Studies*. 15(5), p.667-686.

Santiago, L.S. & Wright, S.J. (2007). Leaf functional traits of tropical forest plants in relation to growth form. *Funct. Ecol.*, 21, 19–27.

Trunečková, L. (2011). *AOPK ČR, Regionální pracoviště Střední Čechy*.

# Annex 1.1

## Annex 1.1.1 - Grid map for observations





### Annex 1.1.2 - 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 centre
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 in
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 1.1.3 - Methodology

This consultancy centres on the perspectives of citizens, experts and physical as well as social observations, together with a theoretical foundation.

In total 616 questionnaires were carried out. The sample size is large enough to draw general conclusions, but the significance of the results depends on the response and type of respondents per geo-area.

#### *First phase - Three weeks preparation*

The terms of reference, provided by IPR Praha, and the theoretical foundation of different Master's-programmes have been the core of the first three weeks of the European Workshop. With maps and GIS-data provided by IPR Praha, there has been made a theoretical construct that helped us prepare for the data collection during the field trip to Prague. A basic understanding was created about the area due to the division of groups; geo-groups and expertise-groups. Five geo-groups were responsible for carrying out research of their respective geo-area. Within each geo-group, there are five different expertises: Policy and stakeholder analysis, Green Infrastructure - physical and ecological analysis, Green Infrastructure - management practice and use analysis, Public perception analysis, and Scenario development. Every participant of the workshop therefore belongs to either an vertical (geo-area), and a horizontal (expert) group. In order to coordinate the exchange of information between groups, a management team was made. This team keeps the overview throughout the workshop, and makes sure everything is done the right way.

#### *Second phase - Two weeks Prague fieldwork*

At the start of the fieldwork we prepared a presentation for IPR, to summarize our work in the previous three weeks, show our working structure and get feedback on the research so far. During the study, 616 questionnaires, 39 interviews, and social and physical observations have been done. These were carried out during different times of the day and in multiple locations per geo-area in order to cover the diversity of the area. The location of where the questionnaires, and observations, have been done are marked in a grid map. The field study was ended with a presentation of our preliminary results near the riverbank of Vltava river. This involved a presentation with the use of posters, a discussion and also an exhibition of the findings of every geo-group about their respectable geo-area.

Note: The various perspectives and opinions stakeholders might have can result in biased information. This, however, will be nuanced by making use of a stakeholder matrix in the geo-reports.

#### *Last phase - Three weeks*

Using the data collected in Prague, the 5 geo groups wrote a detailed analysis. Within these reports the strengths and weaknesses of the current situation of the areas were identified using the structure of the Dutch layer approach. This analysis resulted in the geo-reports. These geo-reports are the foundation for the synthesis report. The synthesis report can be seen as the ultimate analysis on the area. The current situation on Prague hillsides has been analysed quantitatively (statistics) and qualitatively. A scenario study and SWOT-analysis will point out the possible pathways IPR Praha can follow in order to reach a desired outcome.