



VYSOČANY REPORT

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JUNE, 2016

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Chapter 1. Introduction

The Vysočany Hillside (Figure 1) is a diverse area located in between the dynamic urban centres of Prosek in the north and Vysočany in the south. It falls under the jurisdiction of Prague Districts 8 and 9. Prague 8, with its 100,000 inhabitants, is very densely populated (CZSO, n.d.). Prague 9 houses 43,000 inhabitants (Maps of Prague, n.d.) which is intermediate for Prague. Land use ranges from dense forests to residential neighbourhoods. Since the area is bordered by busy roads and a train track, it is relatively isolated from the rest of the city. This isolation and slope of the landscape make Vysočany a suitable place to retreat from city life. However, the hillside has many neglected places and poor accessibility in some parts. Our aim is to define opportunities and threats for the future of the Vysočany hillside.

This is done by means of spatial data, policy reports, interviews, observations and questionnaires. The general methodology is described in the synthesis report. The key research findings regarding the Vysočany 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 of this report elaborates on the governance of the urban environment: policies, stakeholders, public perception and management. The third chapter includes the SWOT analysis and scenarios.

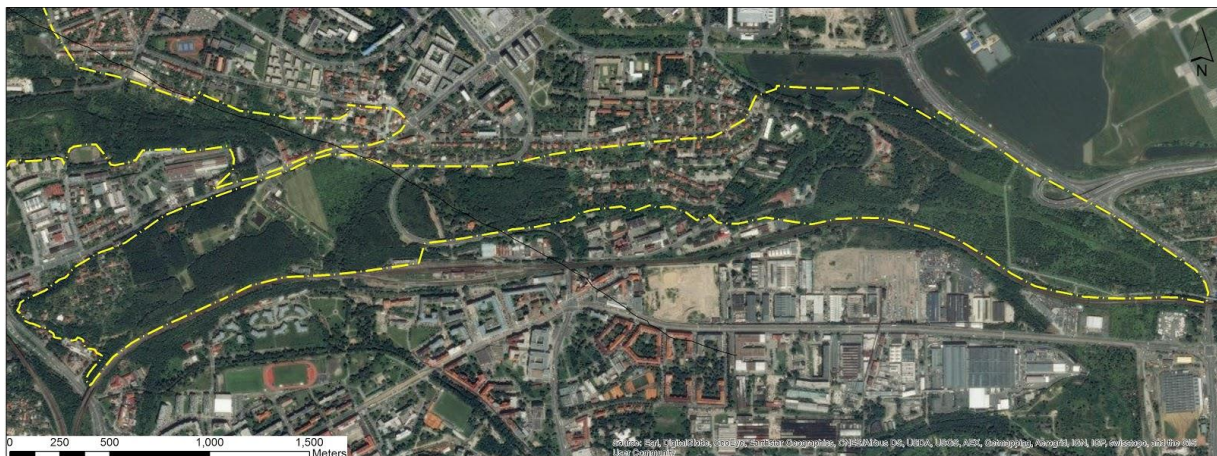


Figure 1. Aerial photograph of Vysočany, the research hillside delineated in yellow (ESRI, 2016)

Chapter 2. Key Research Findings

2.1 Environment

2.1.1 Physical Characteristics

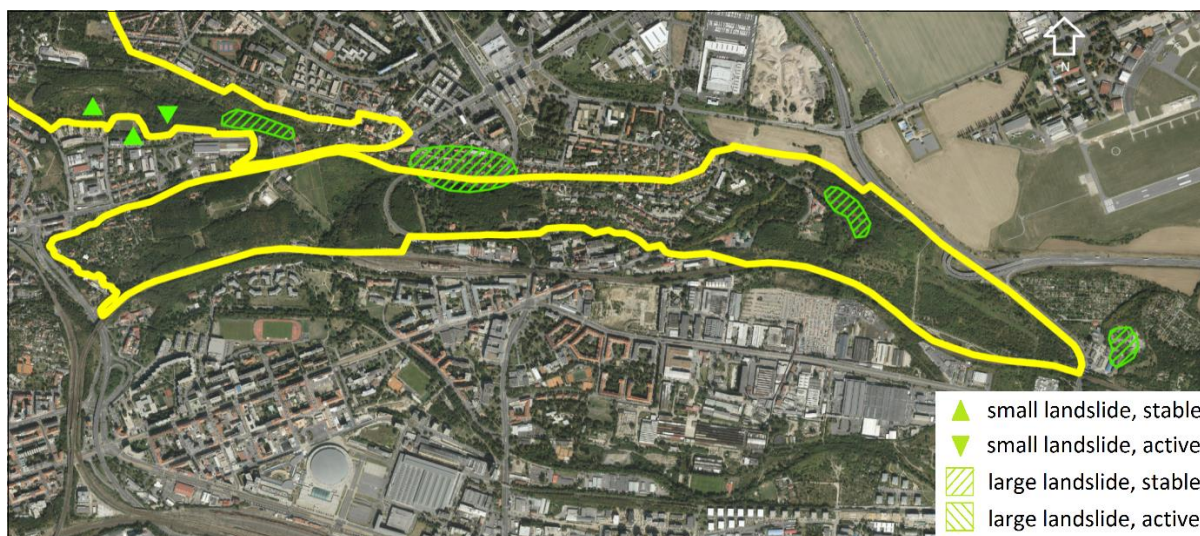


Figure 2. Landslide sites (WebGIS Server Praha, 2016)

Geomorphology and hydrology

The south-facing slope of the Vysočany hillside has been created by river erosion (Interview 15). Annex 5.1.1 shows the contour lines of the Vysočany hillside. The middle part is very steep while the sides have a gentler slope. The top of the hillside is made of sandstone. Due to river erosion the hill's topsoil is placed on hard rock. Near the top, the transition between hard rock and sandstone is quite sharp. (Interview 15). Excavation of sandstone has made the subsoil less stable. Figure 2 shows the location of two areas that could possibly cause landslides, though they are stable in the current situation (WebGIS Server Praha, 2016). Forest cover on the steep slopes provide erosion-control.

The sharp transition between sandstone and rock causes small springs to well up at the upper part of the hillside. A pond is located at the top of the hill (Figure 3). From here two streams flow downhill (Figure A in Annex 5.1.4). The many green spaces in Vysočany provide buffering capacity for water runoff, water infiltration and water retention (Interview 6, Interview 7).



Figure 3. Water retention pond

Ecology

Protected areas - Figure 4 below shows the ecological protected areas and obstacles on the hillside. Vysočany hillside contains one protected landscape element: 'Černá rokle'. This is an old orchard in hands of the municipality. Territorial System of Ecological Stability (TSES) is "a nature conservation tool constituting an ecological network in the landscape" (Görner and Kosejk, 2011) consisting of biocentres, bio-corridors and interactive elements. Our area contains three biocentres. The most western and the middle ones have the land use forest, except for a small private part in the south which is fenced off. The eastern one has the land use greenery. Although it is classified as a bio-corridor in policy documents, at the moment it does not provide any ecological value.



Figure 4. Ecologically protected areas and obstacles (Geoportal Praha 2016a)

Vegetation type and biodiversity - Since there are no Natura 2000 areas or Natural Parks on our hillside, no detailed information is available about the fauna and flora. The eastern part of the hillside consists of the orchard and abandoned terrain, which used to be an orchard as well. The orchard (Figure 5) provides food for animals and is an important habitat for many insects and pollinators (Interview 7). The private gardens contain many flowers that are interesting for pollinators. Pollinators are essential to many ecosystems and in decline in Europe (Potts 2010). It is therefore important to take good care of their habitats.



Figure 5. Vysočany orchard

The forest on the hillside is not very old, as before the hillsides were often in use for production (vineyards, orchards). Usually some grazing took place keeping the original vegetation in a state of small shrubs (e.g. *Crataegus monogyna*). The current vegetation cover is a deciduous forest. Species native to Czech Republic are present: *Acer campestre*, *Quercus robur*, *Tilia cordata* and *Aesculus hippocastanum*. *Sambucus nigra* is an interesting addition as we observed inhabitants picking the flowers for consumption (elderflower syrup). Invasive species, e.g. *Robinia pseudoacacia* and *Quercus rubra* were brought in by humans to replant the hillsides, but are now overtaking the native vegetation. Also in the undergrowth of the forest invasive species are manifested e.g. *Fallopia japonica* (Interview 15). In all parts of the hillside many birds were heard.

Environmental quality

Air quality & Microclimate – Figure B in Annex 5.1.4 shows the air quality in the Vysočany hillside. The ‘very bad’ air quality (classification based on CO₂ and NO_x measurements (Geoportal Praha, 2010)) in the east of the hill is due to the highway that borders the area there (deducted from the NO_x exhaust by transportation as depicted in Figure C in Annex 5.1.4). The flow of ‘OK’ air quality is perhaps due to the openness of the hillside in that place (vineyard, bobsled) as opposed to the rest of the area which consists of rough terrain (forest, buildings) trapping the air pollutants. Overall the air quality is ‘bad’ and could thus be much improved. On a positive note, the forest is trapping air pollutants and is beneficial for those living in the residential areas uphill. Additionally, the green areas provide ventilation corridors that help mitigate the urban heat island effect (Interview 6).

2.1.2 Networks

Bio-corridors

Bio-corridors connect the biocentres (shown in Figure 4, as Spatial Systems of ecological stability). The one connecting biocentre 1 and 2 (from west to east) is mostly forest and classified as 'functioning'. The one connecting biocentre 2 and 3 goes straight through build-up area. The second part of this corridor goes through a green avenue. Both sides of this avenue are fenced and the ecological quality of his corridor is not very high since it is highly maintained and lined with only chestnuts. Fences mostly line the ecological areas, without intersecting them, so they are not a major problem in Vysočany. Functioning bio-corridors have many benefits: for the ecological value, but also as a green corridor for leisure and sports.

Transport network

Connectivity & Accessibility - The Vysočany hillside is connected via public transport through metro, trams and trains. The most efficient connection with the rest of the city are the two metro lines (stops of Vysočanská and Prosek). Praha-Vysočany train station is located in the southern part of the hill, close to Vysočanská metro station. Here also multiple tram lines are present. Currently a new transportation hub is being designed to connect the metro, trams and buses. This project will provide a better accessibility towards the hillside but also includes space for social projects and meetings (Interview 14). No tram lines are close by in the northern part. However, here numerous bus connections exist that also connect the northern and southern part of the hillside.

The accessibility by private transport is adequate. Some main traffic roads cross the area. However, only in the northern part large parking lots were identified. Parking next to roads and on pavements can be problematic, especially for pedestrians. The dense traffic produces unsafe conditions when pedestrians are forced to walk on the road. Increased parking facilities or specially assigned locations next to roads could increase the accessibility of private transport to the Vysočany hillside.

Although connectivity with the rest of the city is good via public transport, physically entering the hillside is rather difficult. The hillside is surrounded by dense traffic routes in the north and a railway in the south. To enter the hill from the south, only two pedestrian tunnels under the train track are present. These tunnels are not designed as pedestrian pathways and are small, dark and not well maintained (Figure 6, Right). In the north, dense traffic roads limit the accessibility towards the hillside as pedestrian crossing points are not widely available.



Figure 6. (Left) heat transportation pipe in the east part of Vysočany Hill, (Right) one of the pedestrian tunnels under the train tracks

Internal accessibility - Within the hillside only few bus stops are present. Traveling from west to east or vice versa with public transport is only possible by leaving the area and afterwards walk inside the area again. Hiking trails in an east-west and north-south direction are present, though the maintenance is sometimes lacking (V11,V12, Observation, 2016). The orchard in the eastern part of the area is difficult to access with only two hardly visible hiking trails entering from the west. The eastern tip of the area is closed off by a heat transportation pipeline dissecting the area (Figure 6, Left) and the railway. The northern part is enclosed by a highway.

2.1.3 Societal Presence

History and cultural importance - The hillside is historically located between two settlements in Prosek and Vysočany. Over time these settlements expanded mostly in flat terrain. The middle part of the hillside is now made up of residential area where both settlements used to meet (Figure 7). Figure 7 also shows on its left side that a major road (in pink) used to cross the hillside. This was a culturally important route for the pilgrimage to St. Wenceslas, the patron saint of the Czech Republic (Interview 15). This route has now been disconnected but remnants are still visible.



Figure 7. Vysočany hillside map of 1842 (Left) and 2015 (Right) (Dvě Prahy, 2016)

Over time the hillsides have fulfilled different functions. In the 14th century Charles IV decreed all south-facing hillsides should be used for wine production, the vineyard on Vysočany hill is a rebound of this practice; replanted in the nineties (Interview 26). In the 20th century, due to changing political climate and recession the vineyards were turned into areas for food production. The orchard is a relic of these times.

View scope - Most of the area, the built-up and forest areas, do not have much opportunities to look out over the city, though some accidental viewpoints are present where a house has been demolished or some trees cut down. The vineyard and the bobsled are an exception and provide an excellent view and offer the possibility of enjoying the view on their terrace (Figure 8). The orchard offers public space with extensive views.



Figure 7. Viewpoint from bobsled

Aesthetics and Sense of place - During the observations all places got high scores for visual valuation and sense of place. The forest area gave a pleasant feeling of being further away from civilisation and was visually nice to reside in. However, small, under-maintained paths, little viewpoints, some trash and a camp of homeless people made

the area feel less safe and attractive. The build area was well maintained, with a green appearance due to the many gardens and no trash. The orchard offers nice views on the city. The path remains to look unofficial, though, giving a feeling of trespassing. The abandoned area in the eastern tip of the hillside is very green and gives a feeling of exploration. Several illegal dwellings, guarded by dogs and 'private' signs, and a lot of trash close to the highway make the area feel unsafe and unpleasant to be. From the park across the railway track the hillside is clearly visible (the forested part) and has a green appearance. From other places the hillside is not so well visible due to local build-up.

Land use - The land use in the Vysočany hillside is diverse. In the northern and southern areas surrounding the hillside land use is dominated by densely built commercial and residential areas. The land use within the hillside can roughly be divided into three parts: forest, residential/build and meadow area (Figure 9). The residential area in the middle separates the forest from the meadows. In the eastern meadows large aboveground infrastructure is present for electricity and heat transportation. This reduces the potential to increase the accessibility or to enhance the aesthetics of the area.

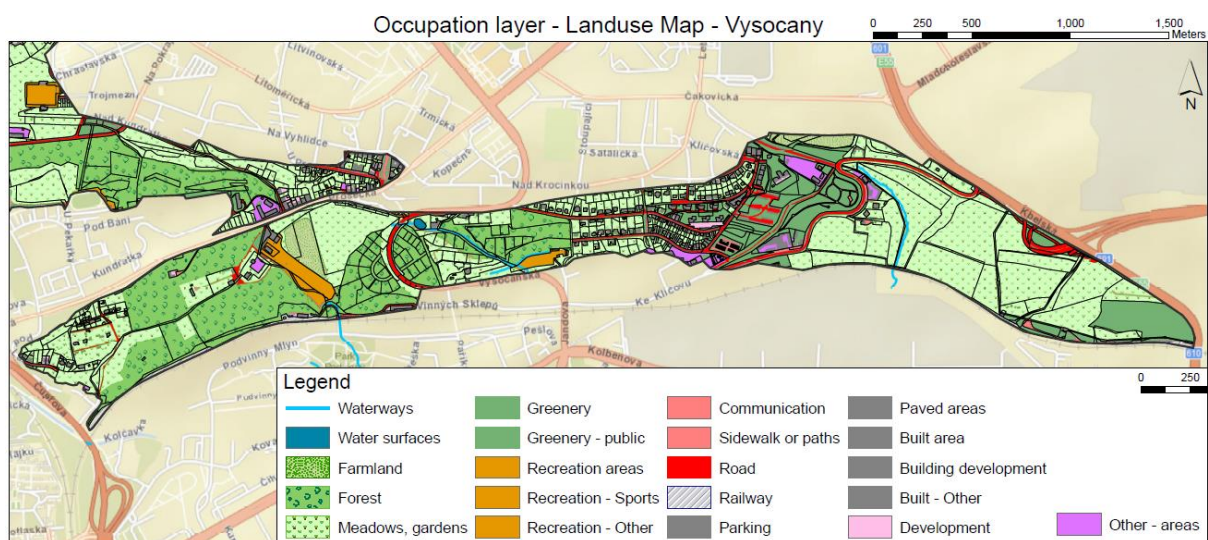


Figure 9. Land use map of the Vysočany area (Geoportal Praha 2016b)

Human use - Figure 10 shows the uses of the Vysočany hillsides based on the results of the questionnaires. Most respondents say that they use the hills for nature walks, sports and leisure. However, from social observation it was clear that people were mostly moving through the hillside, also in case of leisure activities (U11,V11,W11,Y11, Observation, 2016). On the other side of the train track in Podviní park, people tend to spend a longer time in one place, taking time to relax or exercise (R12,S12,T12,V12, Observation, 2016). Infrastructure for hiking and cycling is present in the hillside and some of the pathways and stairs are used for physical education classes. The categories that give the lowest ratings for use are religion/spirituality, work and people visiting attractions or events. Partly, this result is expected as no facilities for religion (e.g. churches and chapels) or large commercial and industrial areas are present. However, the hillside does contain a bobsled track, a vineyard and an orchard. The orchard provides work but also serves as a place for activities like fruit picking or community gathering. Likewise, the vineyard organizes fruit picking events and open days for the public (Interview 26). The orchard and vineyard therefore produce two types of ecosystem services. Firstly, food for human consumption and secondly cultural and educational services.

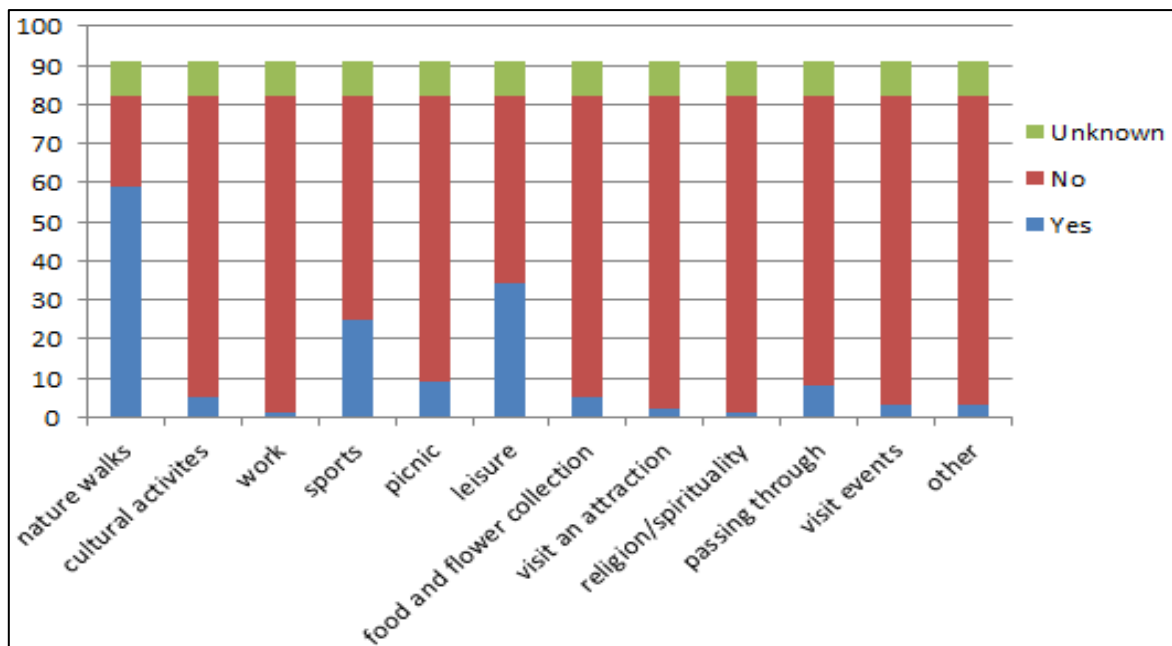


Figure 8. Uses of the Vysočany hillside. The data is based on 92 questionnaires handed out inside and around the Vysočany hillside

Ownership - Figure 11 shows the fragmentation of ownership in the Vysočany hillside. The yellow areas are city and city district owned, red areas are state owned, turquoise plots are privately owned, purple areas are mostly owned by a multitude of actors and green plots are owned by remaining legal Czech entities.

After the fall of communism, state owned plots were given back to their rightful owners. However, most owners have no intentions with these plots or have already forgotten about it (Interview 14, Interview 15). These forgotten plots are now most often densely overgrown. In some cases, plots are owned by multiple actors. For example, the land where the bobsled is located is owned by a multitude of different public and private actors (Interview 10). This differentiation of landowners makes development of, for instance new pathways and biocorridors, very difficult.



Figure 9. Ownership of the Vysočany area. Red: Czech State, Yellow: Prague municipality and city districts, Turquoise: Czech private actors, Purple: Two or more actors, Green: other Czech legal entities (Geoportal Praha 2016c)

2.2 Organisational

The urban environment is shaped by various policies, management practices, a variety of stakeholders and actors and their relationships. This chapter will describe how these practices influence the development of the Vysočany hillside.

2.2.1 Metropolitan Plan

The Metropolitan Plan is the future land use plan of Prague (Chapter II organisation). Figure 12 shows the current Metropolitan map of the Vysočany area with five areas of interest marked that discussed hereafter.



Figure 10. Metropolitan Plan of the Vysočany hillside. The numbers indicate the different uses of part of the hillside. Striped areas are in transformation. Yellow stripes indicate 'transformational area for recreational use'. Red stripes indicate 'transformation for residential use' (Metropolitní Plán Prahy, n.d.)

Region 1 and 2 - The green area is indicated as 'transformational area for recreational use'. Altogether the metropolitan plan states that the area may be developed to increase the value of recreational use. The plan further specifies that the increase in value can be done through improving internal accessibility and facilities. The developed environment has to be in line with the character of the location.

Region 3 - This is part of the Odkolek site, an old factory site. It is marked as a transformational plot for housing and the maximum amount of floors is four.

Region 4 - This area is residential with houses that are two to four floors high with gardens. The destination stays the same as it was.

Region 5 - This area is transformational and determined as residential. The maximum amount of floors is two.

2.2.2 Stakeholder Analysis

In the development of the Vysočany hillside three types of relevant stakeholders are involved: 'governmental parties', 'economical parties' and 'societal parties'. The relations between the stakeholders and their individual interests are outlined in this part. Figure 13 shows the various relations between the stakeholders in the different domains of society. Overall, the government seems to have the most influence on the development of the hillside. However, as Figure 13 shows, links between governmental institutions are missing, which indicates a lack of structural cooperation. Moreover, bottom-up initiatives still have little influence in the direction of development.

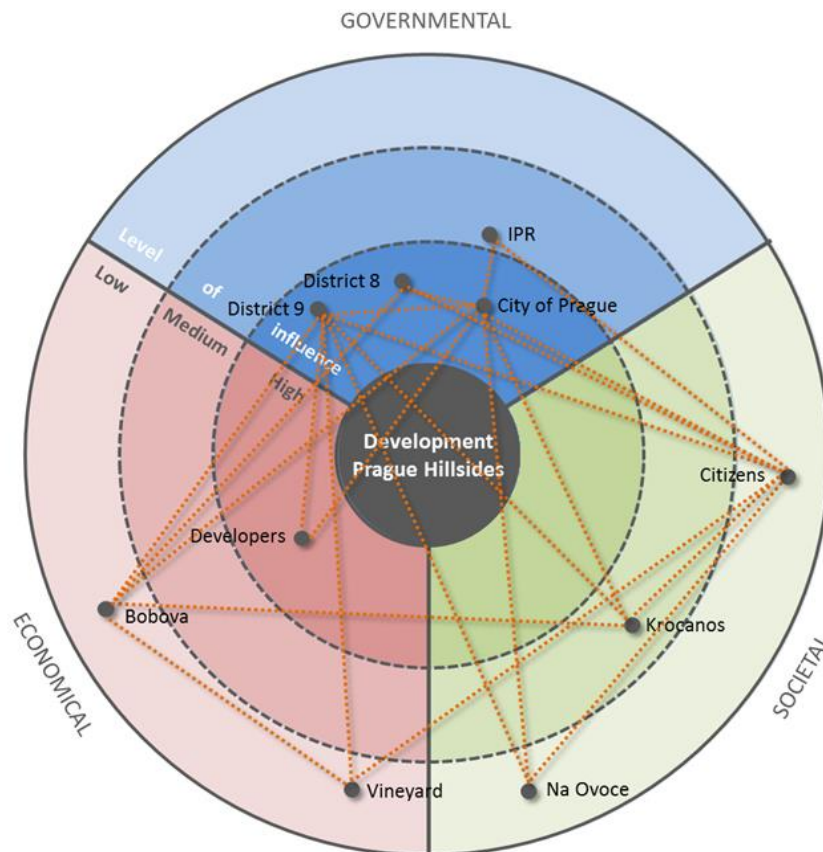


Figure 11. Stakeholder network for the Vysočany hillside. Orange lines either represent mutual dependencies or more ad hoc cooperation, stakeholders are positioned in three classes of influence

Governmental stakeholders

The Magistrate of the City of Prague - The City of Prague and its spatial planning department are responsible for supervising the creation of the land use plan, monitoring the land use plan, preparing data and dealing with proposals for construction. At the moment the hillsides are governed by the land use plan, the environmentally protected status and the ownership/property rights (Interview 19). The City is responsible for their own plots and for nature conservation but has no long-term strategy regarding the plots they own.

The Prague Institute of Planning and Development (IPR) - IPR provides support to the City of Prague 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. Through its connection with citizens and their important role in policy making, IPR can have an impact on developing the hillsides (Interview 19).

Prague District 8 - The city districts play an important role in the development of the hillside. However, no long-term vision exists but improvement is done in an ad hoc way by local projects. The district tries to encourage other landowners to maintain their area but has no formal power to enforce this. Prague 8 also advocates public participation. Participation with NGOs is not very elaborate. Sometimes, they come with plans themselves, but currently little activity concerning the hillside is taking place. The relationship between the districts and the City of Prague differs between projects. Disputes mostly regard ownership, maintenance and financial matters. No structural cooperation with IPR and District 9 exists up to this moment (Interview 21).

Prague District 9 - This district has authority over the majority of the Vysočany hillside. As in Prague 8, no clear vision on the development of the hillside exists. Furthermore, there are conflicting views within Prague 8: ecologists want to limit human activity while city planners favour full economic use and therefore development. At the moment policy is mainly focused on maintenance of their own part of the hillside (see 2.2.4.). The relationship with the City of Prague is unclear, but we know that they cooperate on the maintenance of the hillside. Moreover, the relationship with the inhabitants is a much debated topic. Prague 9 states that they involve citizens in the decision-making process, other stakeholders claim this is lacking (Interview 29, Interview 31).

Economic stakeholders

Developers - On the Vysočany hillside several developers are active, which are hard to identify. Part of the fragmented hillside is in private hands; in some cases, these owners have plans to develop their property. The old Odkolek factory in the south is property of the FIM Group that wants to build apartments there. Similar plans are made for the old garage boxes, in the middle of the hillside. Moreover, the plot east of the vineyard is reserved for bungalow development. However, none of these developers seems to have a building permit yet (see 2.2.1).

Vineyard Machalka- The vineyard on the Vysočany hillside (Figure 14) is a cooperative of citizens that produces and sells wine. They rent the plot from Prague 9, with whom they have a contract till 2026. Prague 9 also provides them with an annual grant for the maintenance of the area. Overall the relationship between Prague 9 and the vineyard is good. However, the vineyard is against any development on the hillside and favours the current wild nature. The relationship with local people is also good and is strengthened by the various open events that are organised throughout the year (Interview 26).



Figure 12. Vineyard Machalka

Bobová dráha - the Bobová dráha is a bobsled on the Vysočany hillside located in the Districts of Prague 8 and 9. Their land is half owned by the bobsled and rented from Prague 8, Prague 9, the City of Prague and a sports association. Consequently, they have close ties with these organisations. The relationship with the aforementioned organisations, the vineyard and local NGO Krocános is good. Further urban development of the hillside is not in the interest of Bobová dráha, while they would support more sports and leisure facilities (Interview 10).

Societal stakeholders

Na Ovoce - Na Ovoce is a small organisation of four people who started with the goal to map all the publicly accessible fruit and nut trees in Czech Republic. They organise workshops, seminars and a fruit juice festival that took place at the abandoned orchard on the Vysočany hillside. The use of this orchard was granted to them by the City of Prague, which is also responsible for the large maintenance operations in this area. Besides free access to land of the city, Na Ovoce is supported by subsidies from Prague 9. In contrast to Na Ovoce's goal to attract more people to the area, ecologists from the district are still hesitant to stimulate too much human activity in the area because of its environmental value (Interview 24, Interview 31).

Krocanos - Krocanos is the main NGO in Prague 9 concerning environment and public space. They have multiple ties with civil society: communication with other NGOs, a mailing list of 400 people, their events are well visited and local businesses assist Krocanos. They aim to improve its development and maintenance and get citizens involved in this process. Krocanos criticises the lack of participation and attention for the environment. This causes tension between Krocanos and District 9. Krocanos feels they do not get funding from District 9 because they hinder certain spatial developments. Funding comes from the City of Prague, with whom they have a better relationship. Krocanos thinks this relationship could be improved, especially with IPR, in which they put trust to improve the hillsides for the people of Prague (Interview 29).

Citizens - The interests of the citizens concerning the hillsides are described in the 'public perception' part. These interests depend on the willingness of developers and political actors to listen to them. Citizen involvement differs between Prague 8 and 9. Moreover, they are not obligated to take the public opinion into account, which limits their actual influence.

2.2.3 Public Perception

This paragraph will outline the main findings regarding the thoughts and wishes on the current situation and development of the area. This analysis is partly based on the questionnaires handed out in and outside the area. In total 92 respondents filled in the questionnaire.

Current and future perception

The frequency of visiting the Vysočany hillside is relatively low among approximately the same amount of male and female respondents. Most people cross the area without engaging in activities on the hillside itself. The ones that visit Vysočany use the green spaces on a daily basis, and that makes almost all of the respondents feel happier and healthier. Moreover, safety does not seem to be a problem for most people. This can be considered as a remarkable response since, according to observations, there is no efficient lighting, proper safety near rocky sides or clear signs that show direction. Also, one of the stakeholders (Interview 29) feels that the area is not safe, because Prague 9 has not done any maintenance on their part. Besides, the presence of homeless people is another reason that could reduce the perception of safety (Interview 14). Still, the respondents of the questionnaire feel that the hillside should be improved by more sport and leisure facilities and preserving and even enhancing natural value. It should also be emphasized that the least favoured change for the Vysočany hillside is to expand urban areas (Figure 15).

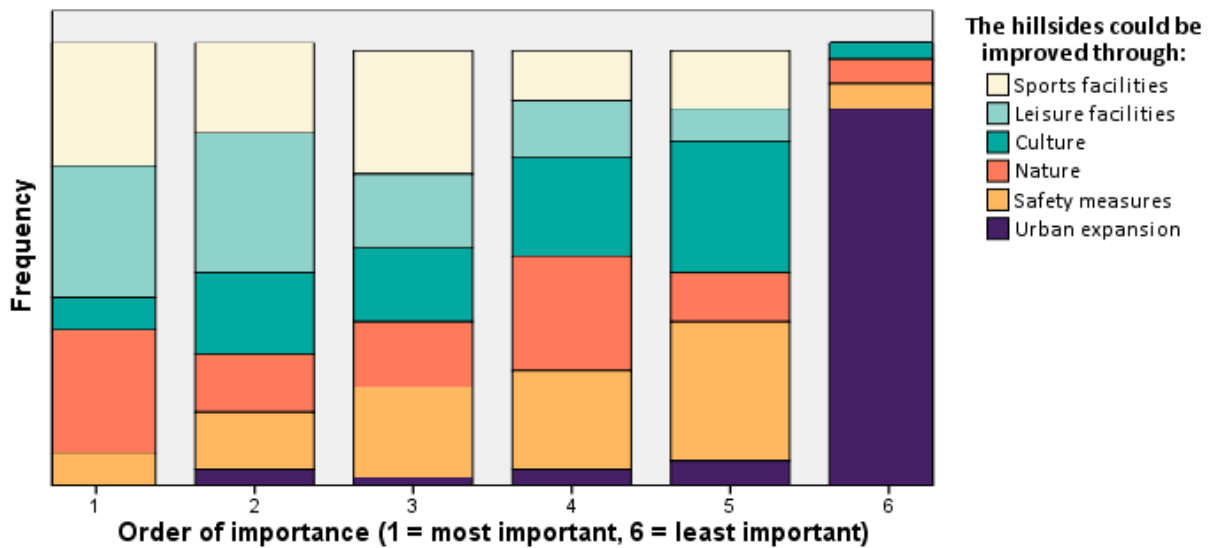


Figure 15. Options for improvement ranked by order of importance

Participation

Most people feel responsible for the maintenance of the hillside and feel that citizens in general should be involved in its management. However, citizens hesitate to actively participate in the development of the hillside themselves. More than half of the respondents show the desire to be informed about development of the hillsides. The participation ladder of Arnstein (1969) can be used as a helpful tool for analysis of the extent of citizens' power in making management decisions. The ladder consists of three levels of participation: nonparticipation, tokenism and citizen control. The results are summarised in Figure 16.

The level of “nonparticipation” bears the meaning of educating people by those who have power, but not involve them in actual planning. From the conducted questionnaire, the statement “The municipality should develop and maintain the hillsides without public participation” shows the level of nonparticipation as half of the respondents agree with the claim.

At the tokenism level citizens to have their voice and express opinion about decision making. More than half of the respondents show the desire to be informed about development of the hillsides. Only a quarter of those who answered agreed that municipality is open to citizens' concerns and ideas regarding the hillside, while 49 people responded as “not applicable”. Interestingly, half of the respondents prefer to be more involved in the maintenance activities, while almost the same amount of people want to keep a distance from it. Besides, almost 50 respondents would like to cooperate with urban experts and contribute with their own ideas.

The last level on the participation ladder related to active cooperation with power holders and full managerial power. Two questions in the questionnaire cover this part of participation. Firstly, 52 out of 79 respondents only feel responsibility for the hillside maintenance, 50 of them think that citizens must add practical contribution.

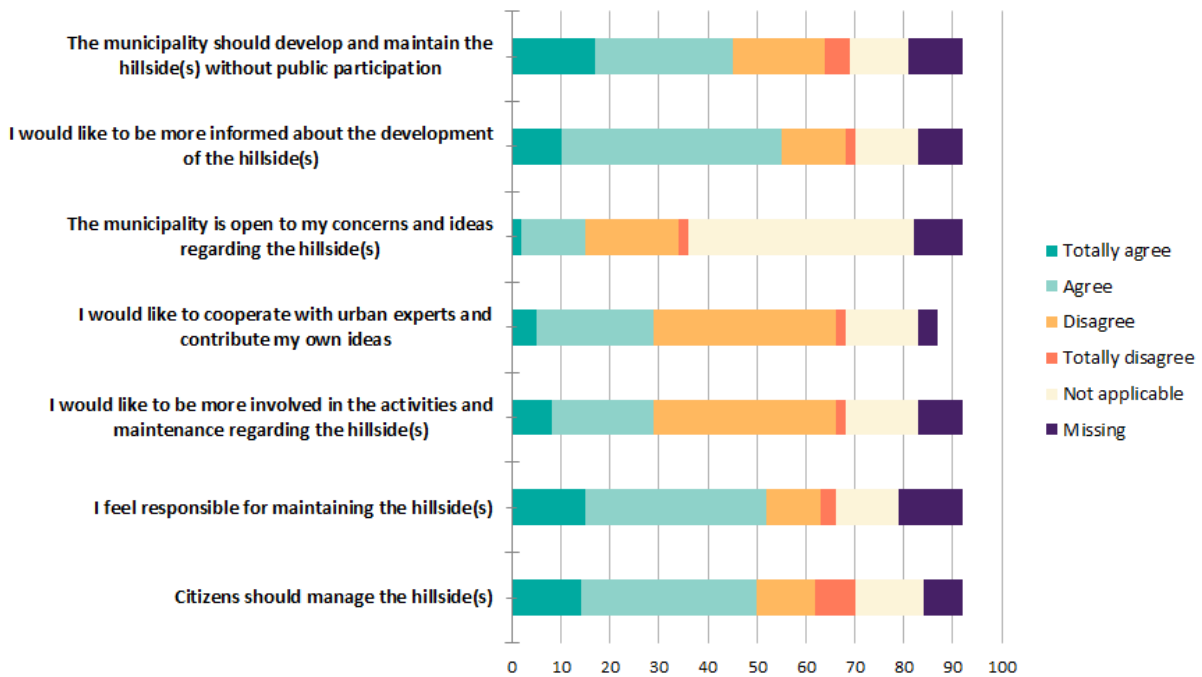


Figure 16. Public participation graph

Media

Prague District 8 and 9 publish monthly magazines called “OSMIČKA” and “DEVÍTKA” respectively. And they both have Facebook and Twitter pages, which seeks to publish information for the quality of life of citizens of the related districts. The magazines are distributed free of charge to all mailboxes according to districts. In 2015, Prague 8 got the first place in the regional competition for best websites of cities and municipalities; this shows the strength and willingness of the municipality to cooperate and involve local citizens by providing access to information about their district online. Some stakeholders such as the bobsled and the vineyard have occasionally contact with the media, but this is mostly in very specialized magazines or TV-programmes.

2.2.4 Management and Maintenance

Large scale management and maintenance of Vysočany hillside is not present. The geomorphology and problems with accessibility make it hard to use large and heavy equipment (Interview 14 and 31). Although the city district has an annual budget of 3 million Kč this is reserved mostly for maintenance of existing parks (Interview 31). Additionally, Prague 9 often outsources the maintenance of greenery.

Management of greenery is necessary if rehabilitation of the original vegetation of Vysočany is desired. Controlling the presence and spread of invasive species is difficult as they grow fast. The most effective tactic for the trees is to selectively cut them down and plant native species instead. Additionally, little effort is made at the moment to protect the indigenous old oak trees from destruction or overgrowth by invasive species (Interview 15).

Management and development of privately owned plots is not easy as well. The large number of actors, rules and institutions involved demands for long lasting processes before a plot can be developed legally. Also, many different actors must be informed and all must give their approval before development. In the meantime, these plots are neglected. This gives the hillsides a messy and

abandoned appearance. Also, it encourages illegal housing by homeless as it is not clear who owns or maintains the land (Interview 14).

Well organized maintenance exists in the vineyard and orchard (See 2.2.2). Prague 9 wants to develop a hiking trail through the vineyard to connect Prosek and Vysočany. Communication about this between Prague 9 and the vineyard was not optimal although they have a good relation (Interview 26). The vineyard opposes the plans to create a hiking trail through their area. Concerning the orchard, Prague 9 organizes social maintenance by providing homeless people a place to stay in the orchard on the eastern part of the hillside and a small income in exchange for maintenance.

Chapter 3. Scenario Development and SWOT Analysis

3.1 Themes

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 Vysočany is shown below in figure 18.



Governance and maintenance

- Lack of involvement of the general public in spatial development.
- Some local citizens are organised in NGOs.
- Small-scale projects for improvement of the hillside are organized by the districts.
- Ad hoc collaboration between stakeholders with mutual interests.
- Subsidies are given to bottom-up initiatives in an arbitrary way.
- Social programme in orchard on maintenance by homeless people.
- Fragmented ownership: city, District 8 and 9, state and private owners.
- Vysočany is located in two different jurisdictions which have different approaches to management.
- No long term vision and strategy on the development of the hillside.
- Lack of communication and agreement between stakeholders regarding land use, management and development.
- No large scale maintenance, due to steepness, lack of financial support and power over private land owners.



Development

- Diverse land use: forest, residential/build and meadow/orchard area.
- Landscape architects are often disregarded in city planning.
- The green space on the hillside is protected by the land use. plan, but will be transformable to more leisure activities in the metropolitan plan.
- Existing development often creates junk space below roads and railways.
- Land use planning does not follow cadastral data accurately



Functions

- People use the area for nature and dog walks, sports and leisure.
- Activities: bobsled, fruit picking in orchard and vineyard.
- Educational and cultural programmes in the vineyard and orchard.
- Low number of people using the area.
- Illegal housing in some areas of the hillside



Accessibility

- Many connections via public transport (metro, trams, buses, trains) to the area.
- Few pavements are present; users are forced to walk on roads.
- Presence of electricity lines and heat transportation pipe.
- Difficult to enter the area due to barriers (railway, busy roads).
- Presence of dark and unmaintained tunnels for pedestrian access.
- Navigating within the hillside in an East-West direction is hard.



Attachment

- Vineyard, orchard and historical elements provide cultural value.
- People feel happier and healthier when they visit the hillside.
- People think that the hillsides have beautiful scenery.
- People feel responsible for maintaining the hillside.
- Currently few citizens are actively involved in managing the hillside.
- Other hillsides are more visited than Vysočany.



Safety

- The hillside is considered safe by current users.
- The tunnel at the railway station used to access the area is dark and not meant for pedestrian use.
- Paths in the forest and meadows are partially not maintained.
- Homeless camps are present in the forest.
- No sufficient lighting and proper safety near rocky sides or clear signs.



Ecosystems

- Forest cover and buildings on the steepest slopes provide erosion-control.
- The green spaces provide buffering capacity for water runoff, water infiltration and water retention.
- Two functioning biocentres, connected by a biocorridor.
- Few fences and private plots intersecting bio-centres and corridors.
- Presence of wild natural areas and indigenous old oak trees.
- Presence of plant species suitable for human-consumption.
- Orchards and gardens provide habitat for important pollinators.
- Slope and forest protect upper residential areas from air pollutants and noise.
- Green cover helps mitigating Urban Heat Island.
- Current land uses provide aesthetic value.
- Few viewpoints are present.
- Poor air quality especially around the highway.
- Presence of invasive species.

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 17). 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.

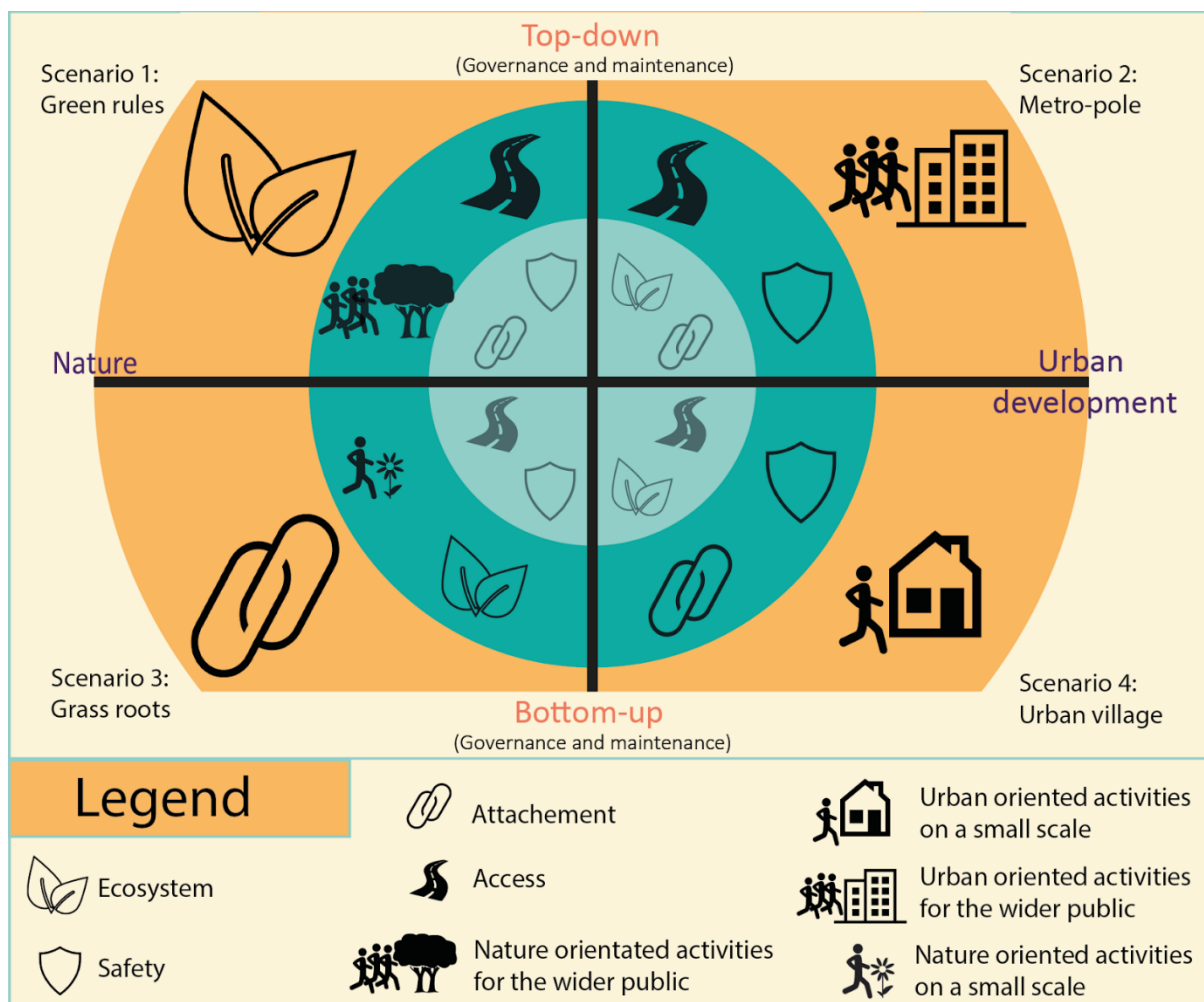


Figure 17. Overview of scenarios

Concerning Governance and Maintenance (y-axis), in the present situation citizens are not actively informed and consulted when it comes to decision making. They are also not involved in maintenance. Decision-making follows an unstructured top-down approach. The management of the hillside is not homogenous due to fragmented ownership and different jurisdiction approaches; consequently, no overall integrated plan for the hillside exists either. Several nature activities for the

wider public are organized by NGOs, such as fruit picking in the orchard; although they have a good follow-up, they are not supported thoroughly by the different administrators (i.e. District 9). Concerning the Development, the hillside is composed of very diverse areas. It is mainly constituted by forests and meadows with partially maintained walking paths; on the other hand, the central area of the hillside has a residential function. Biodiversity is threatened by invasive species and not enhanced through a bio corridor.

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 Vysočany can be found below, in Figure 18.

1 Green Rules

Opportunities

- People favour nature and leisure development.
- New metropolitan plan offers possibility of transforming green space to more leisure activities.
- There is a plan to create a bio-corridor to connect Vysočany and White Rock.

Threats

- Citizens want to be involved in managing the area.
- Stakeholders often collaborate to work against governmental plans.
- The new highway construction might be taken up in the metropolitan plan.
- Developers plan for further residential development.
- Fragmented ownership and two jurisdictions limit governmental effectiveness.

Grass Roots

Opportunities

- People favour nature and leisure development.
- Existing NGOs in the area help to involve citizens.
- Inhabitants want to be involved in managing the hillside and feel responsible for its maintenance.
- Stakeholders collaborate if they have mutual interests.
- Subsidies are available for bottom-up initiatives.
- The approach to homeless people gets more social.
- Much (green) public space available for citizens.

Threats

- The new highway construction might be taken up in the metropolitan plan.
- Developers plan for further residential development.
- Bad internal accessibility hinders public relation with public space.
- Subsidies are given arbitrarily to initiatives.
- Some politicians are not in favour of public involvement.

Current situation

Strengths

- Good connection to the rest of the city via public transport (metro, trams, buses, trains).
- Orchards and vineyard provide fruit and cultural value.
- Green spaces provide important ecosystem services such as water infiltration and retention, climate regulation and pollination.
- Presence of ad hoc collaboration between stakeholders with mutual interests.

Weaknesses

- Prague 8 and 9 have different approaches to management
- No large scale maintenance, due to steepness, lack of financial support and power over private land owners.
- Lack of communication and agreement between stakeholders regarding land use, management and development.
- Subsidies are given to bottom-up initiatives in an arbitrary way.

Metro-pole

Opportunities

- There are development plans for urban expansion.
- Good public transport connectivity.
- Accessibility will be improved with the redevelopment of the railway track and station.

Threats

- Citizens want to be involved in managing the area.
- Most stakeholders and citizens are against urban expansion.
- Fragmented ownership and two jurisdictions limit governmental effectiveness.
- Forests and meadows are considered valuable by NGOs and users.

Urban Village

Opportunities

- Population growth in Prague can be accommodated by further residential development.
- Existing NGOs in the area help to involve citizens.
- Inhabitants want to be involved in managing the hillside and feel responsible for its maintenance.
- Subsidies are available for bottom-up initiatives.

Threats

- Subsidies are given arbitrarily to initiatives.
- Bad internal accessibility hinders public relation with public space.
- Forests and meadows are considered valuable by NGOs and users.
- Most stakeholders and citizens are against urban expansion
- Some politicians are not in favour of public involvement

Figure 18. SWOT analysis for the Vysočany hillside

Chapter 4. Conclusion

The Vysočany hillside provides a green space in between the densely urbanized areas of Prosek and Vysočany. This report has reviewed the current status of the hillside in ecological, managerial, political and public perceptual sense. Additionally, four scenarios are created to identify potential future development pathways to improve the quality of life on the hillside.

The Vysočany hillside provides a diverse mix of land uses and possibilities for development. While lush green areas exist in the west and east, the centre is dominated by housing and human activity. The area is used for recreation, sport, food production and education. However, internal accessibility problems illegal housing and vandalism currently reduces the potential for use in certain areas. Taking this diversification into account, developing the hillsides must be done with care to allow for correct policies, a healthy ecosystem and good social relationships.

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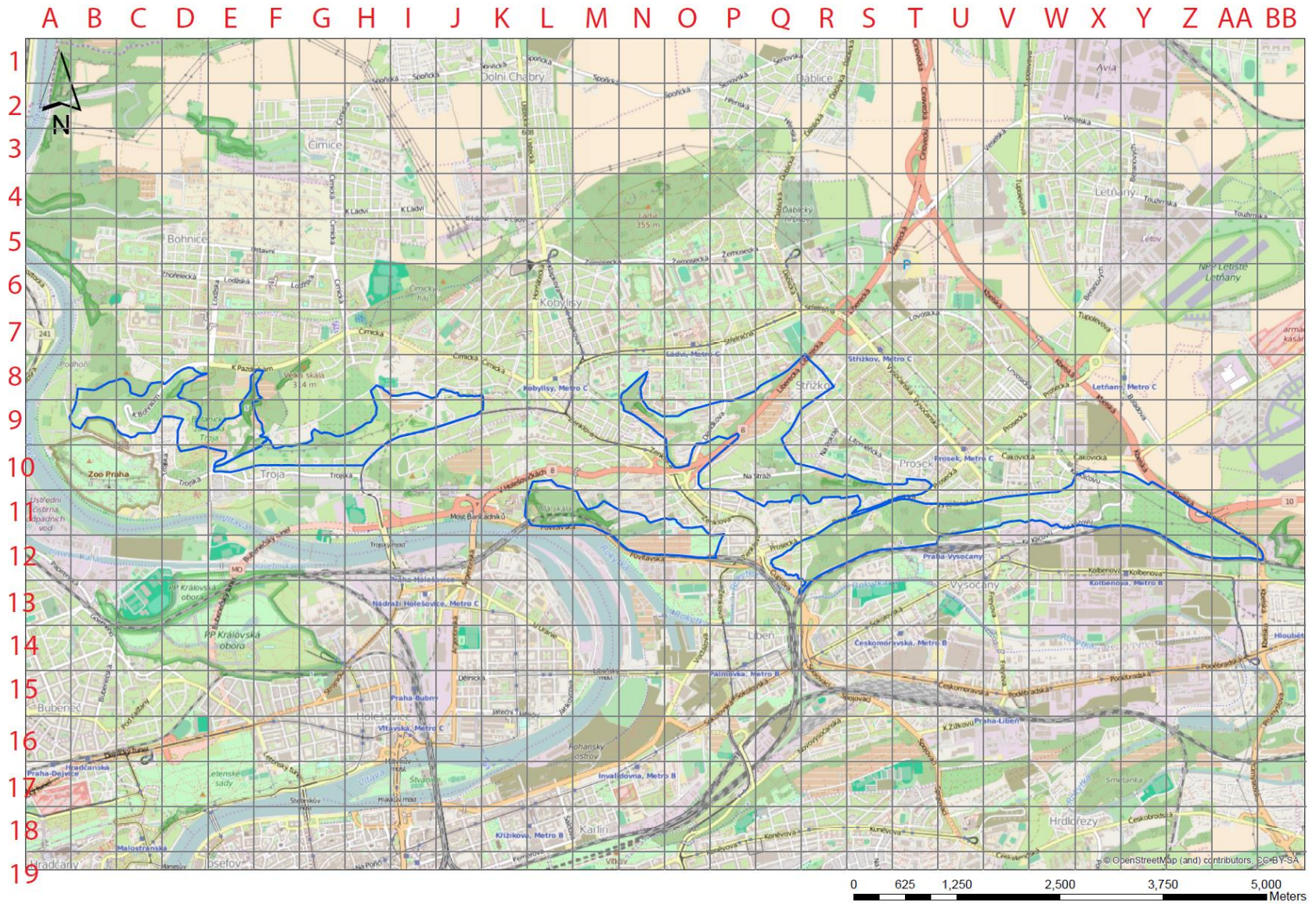
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Annex 5.1

Annex 5.1.1 Grid map for observations



Annex 5.1.2 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 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 5.1.3 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 matrix in the geo-reports.

Last phase - Three weeks 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

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.

Annex 5.1.4 Figures

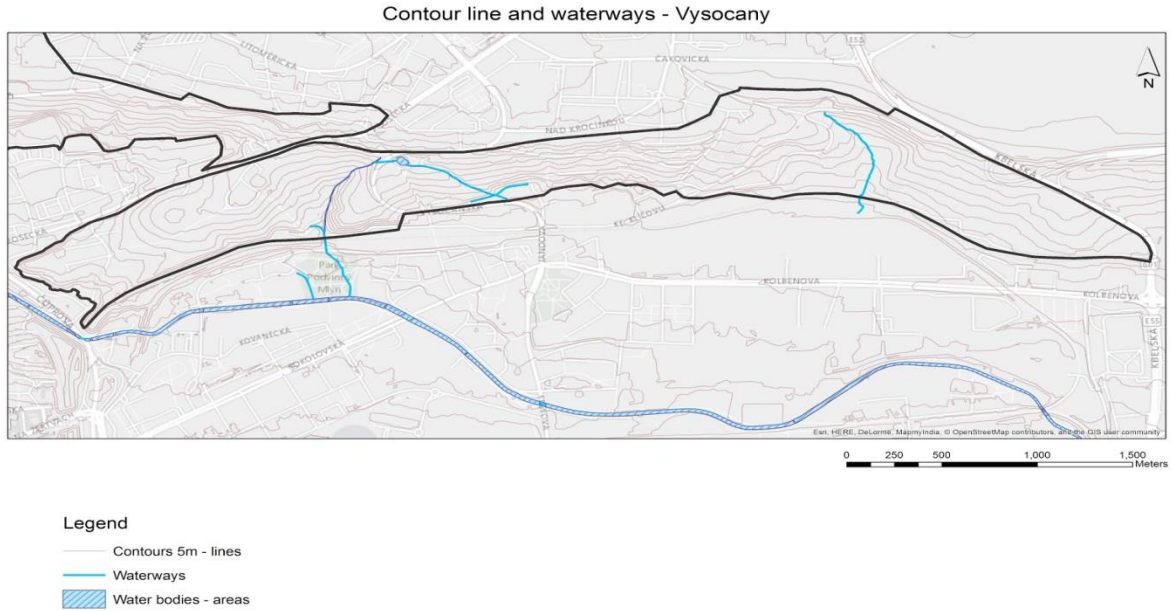


Figure A. Contour lines and waterways in and around Vysočany hillside (Geoportal Praha 2016d).

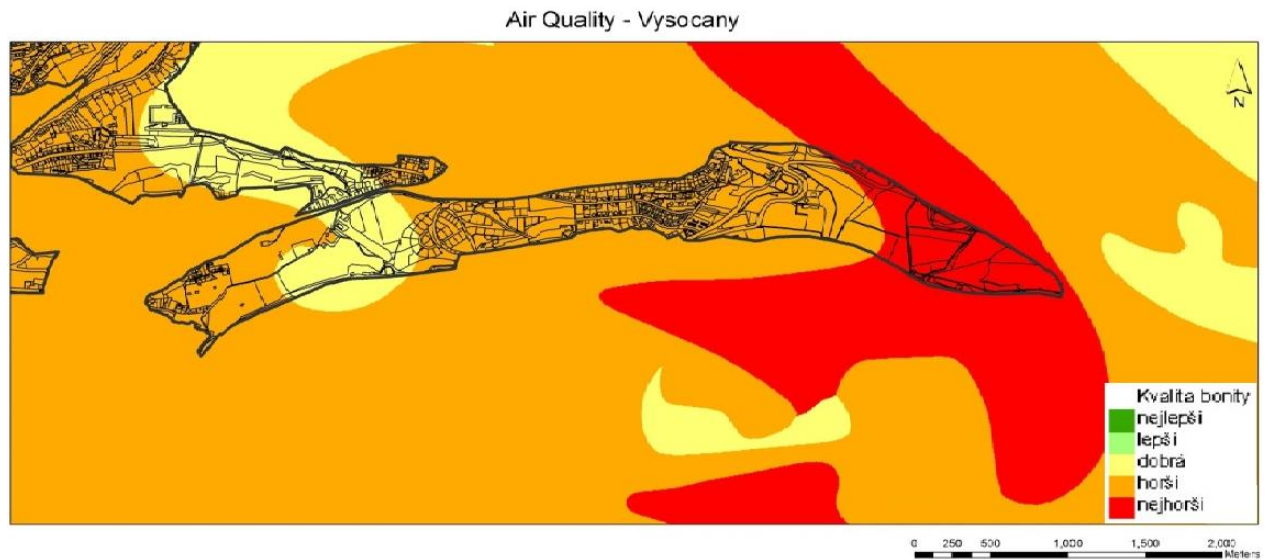


Figure B. Air Quality in and around Vysočany hillside (English legend: best, better, good, worse, worst) (Geoportal Praha 2016e).

NOx exhaust by transport - Vysocany

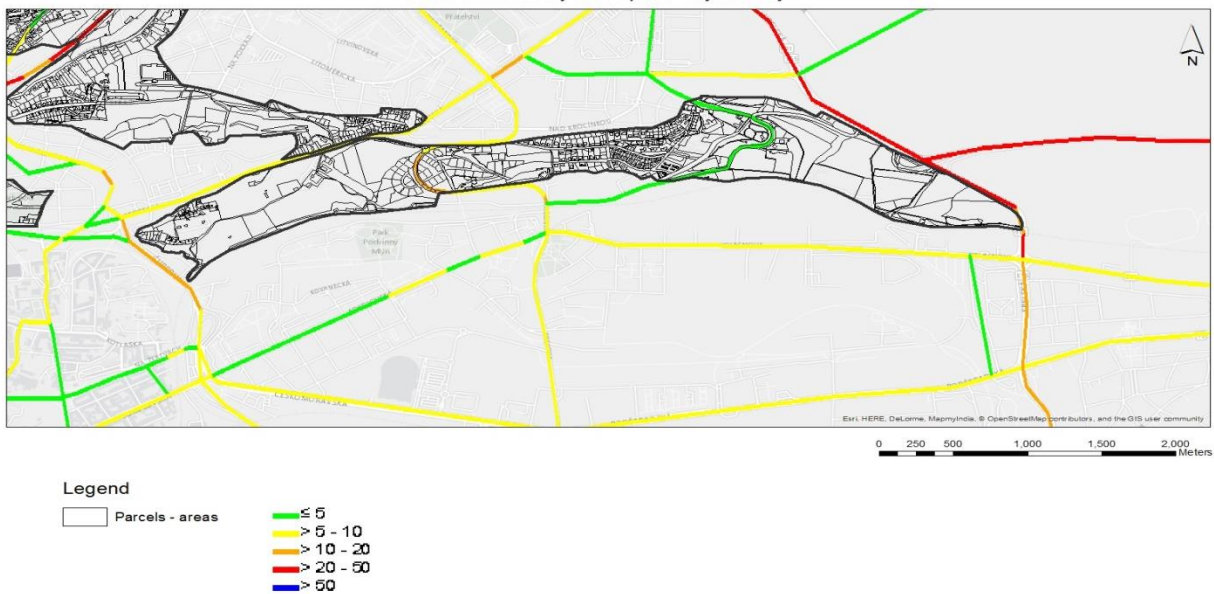


Figure C. NOx exhaust by transport in and around Vysočany hillside [$\mu\text{g}/\text{m}^3$] (Geoportal Praha 2016f)