



University of Natural Resources

# ***Community gardening in Bratislava as an open space for thinking, acting and living***

Thesis submitted for the Degree of Master of Science at the Institute of Landscape Planning; Department of Landscape, Spatial and Infrastructure Sciences at the University of Natural Resources and Life Sciences, Vienna

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*"Plan...something, what later looks completely different."*

- Julian Tuwim -

## Abstract

This master thesis analyzes the actual situation of community gardens in Bratislava based on four case studies. The main goal is to study the importance of community gardens for the urban life, the design principles of the plots and social structure of the gardening communities. The citizens need to act, socialize with others, relax, learn and transform their surroundings. The community gardening seems to offer all these aspects in combination with subsistent food production that can be considered as the basic human right. Besides this it can contribute to the development of local communities and neighbourhoods. My aim is to define community garden as a specific type of open space that should be supported by the official authorities and involved into the urban planning in post-socialist cities as Bratislava.

**Keywords:** community garden, landscape planning, urban environment, open space, children and nature, vegetable production, social interaction,

## Das Abstrakt

Diese Masterarbeit analysiert die aktuelle Situation der Gemeinschaftsgärten in Bratislava auf der Grundlage von vier Fallstudien. Das Hauptziel ist es, die Bedeutung von Gemeinschaftsgärten für das städtische Leben, die Gestaltungsprinzipien der Grundstücke und die soziale Struktur der Gartengemeinschaften zu untersuchen. Die Bürger müssen handeln, mit anderen sozialisieren, entspannen, lernen und ihre Umgebung verändern. Die Gemeinschaftsgartenarbeit scheint all diese Aspekte in Kombination mit einer nachhaltigen Nahrungsmittelproduktion zu bieten. Diese Subsistenzproduktion kann als das grundlegende Menschenrecht angesehen werden. Daneben können die Gemeinschaftsgärten zur Entwicklung der Gemeinden und Nachbarschaften beitragen. Mein Ziel ist es, den Gemeinschaftsgarten als eine bestimmte Art von Freiraum zu definieren, der von den offiziellen Behörden unterstützt und in die städtebauliche Planung in postsozialistischen Städten wie Bratislava einbezogen werden sollte.

**Schlagwörter:** Gemeinschaftsgarten, Landschaftsplanung, städtische Umgebung, Freiraum, Kinder und Natur, Gemüseproduktion, soziale Interaktion

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# 1 Introduction

I was born in 1986, in one of the biggest residential districts in middle Europe, Petržalka. The construction of this dense blocks of flats made out of concrete and steel was actually never finished because of the political revolution in Eastern Europe so there is still missing the complete offer of civic amenities. As little kids we didn't care about the revolution or lack of parks and we utilised the unused space around us and created our own world in a group of self-seeded trees or on the banks of a gravel pit lake. This places, or we can say burrows, gave us the feeling of autonomy and freedom. Almost every weekend our grandfather took me and my brothers to his garden where we discovered planting of seeds, maturing of vegetables and the importance of earthworms. His wisdom, together with seasonal dynamics were forming my life attitude and now I know that gardening isn't just about the food growing, but it's also about experience, patient learning and simple understanding of nature and its processes. It is normal that you have to wait for the harvest of tomatoes till the highest summer and you can't pick strawberries in winter. Someone can argue that this knowledge is completely useless with the supermarkets full of goods independent from natural seasons. But what is actually really important for us in our modern world? Is it the wide range of available products or the relationship to the people around us and to the surrounding world?

The inhabitants of cities are people and the urban life is also shaped by simple folks and not by officials and municipalities as it may sometimes looks like. The pressure of big commercial development companies is creating more and more shopping malls, where we can spend our time buying thing that we don't really need, for money that we earned in a job that we don't like. I believe that creativity and cooperation makes our surrounding more liveable. This is also the main aim of many urban grassroots movements around the world and one of those that evoke my interest is community gardening. The garden of my grandfather is situated one hour by car from my home and the idea of a garden just behind the corner in the middle of a city is in my opinion wonderful. It can significantly reduce the time that we spent on transportation or shopping and use the time to grow your own organic food, meet people or just observe the nature.

During my cooperation with a nature conservation organisation in Bratislava I got to know people that were just starting a project of community gardening 10 minutes on foot from my house and I have joined them immediately. The production isn't the main goal for us, more important is the communal work, experimentation, creative surrounding and interesting discussions on many topics. We have the same problem with snails, we are thinking how to raise the biodiversity in the garden, we try to invite visitors and volunteers to the garden and

present the project or we are just organising a small garden party. It is the same as in our childhood, we have a place where we feel free, it's our small burrow. Because of my study and work I didn't have enough time to participate on the main management of the project. I was just a simple member-gardener, but we all realized that maintenance of such a community with self-administration is full of challenges and the external support could be very helpful. Our project was guided on the beginning by the supervision of an environmental non-governmental organisation but I believe that the support of local authorities could elevate our effort on a higher level.

I don't live in Petržalka anymore but I am visiting this city part sometimes and I have nice reminiscences of this place in my mind. The density of the inhabitants is much higher there nowadays, nevertheless the number of kids playing outside and their sanctuaries in small tree groups isn't direct proportional to the population increase. Where do they find their freedom and autonomy? As far as I know there isn't any community garden in Petržalka, but there are some in other parts of the city. I decided to find out more about these projects, analyse them from the perspective of landscape planning and create suggestions for the local authorities or just for the simple residents to raise the awareness about community gardening and creation of open space in city districts of Bratislava.

## 2 Community Gardening

### Definition

Most of the papers on community gardening aren't defining the term "Community garden" probably because it may seem self-explanatory. I use the definition formed by Guitard, Pickering and Byrne in their literature review on community gardening, because of its simplicity and wide coverage:

"Generally the term 'community garden' refers to 'open spaces which are managed and operated by members of the local community in which food or flowers are cultivated'" (Holland, 2004; Pudup, 2008; Kingsley et al., 2009 in Guitard, et al., 2012).

### History

Many architects and urban planners aren't paying much attention to city gardening. They see it just as an optional, complementary element. The gardening within or on the edge of the settlements was an important factor of urban life in the past as well as it is today. A good example from 16th century presented by Jac Smit is Machu Picchu in Andes (Smit, 2002). This remote city in high mountains (2,440 m) had probably a self-sufficient food production with excellent irrigation system.

Community gardening in the United States has been documented since the economic depression in 1893. The Mayor of Detroit Haze Pingree asked the owners of vacant land to allow the unemployed to use their property as vegetable gardens. These areas were called "Pingree's Potato Patches" and the project saved a lot of money and provided also feeling of self-respect and independence for unemployed people (Bassett, 1981). The gardening became an important patriotic activity for Americans during the World War I in Liberty Gardens and World War II in Victory Gardens. Both of them were planted in the backyards and vacant lots to support the troops and war efforts overseas and improve local economy (Bassett, 1981). Today gardening is an important part of modern community open space movement that started in the 1960s and 1970s. Based on grassroots organisations and neighbourhood activism it is responding to the inadequate design, program or facilities of local parks (Hou, et al., 2009). Interest in community gardening continues to grow often with support of other institutions, including: the federal United States Department of Agriculture's Urban Gardening Program, the American Community Garden Association (ACGA), parks, recreation departments, city governments and universities. In the United States and Canada, the ACGA reported 18,000 registered community gardens (ACGA in Waliczek, et al., 2016) .

During the medieval period in Europe there were horticultural techniques developed mainly in monasteries, however kitchen gardens in common households were also very popular (Gothein, et al., 1928). Probably the oldest, registered, existing garden in Europe is in Great Somerford, United Kingdom. This six-acre site was created for the benefit of the labouring poor in 1809 (Savill, 2009). This area can be considered as the beginning of modern allotment movement. Allotment gardens have been spread around the whole Europe. Thanks to a royal decree on the allocation of agricultural land to the urban poor from 1826 they started in Denmark (Procházka in Valešová, 2011). The German equivalent for the allotment garden is named after the orthopaedist Schreber. One hundred fifty years ago the Schrebergarten movement was established in Leipzig. The original idea was leasing land for the physical exercise for children but very soon the parcels were used by adults for food production as well. The merger into an association made the movement very strong especially during war time in 1914 to 1918 (Dams, 2011). The first allotment gardens in Slovak republic were created during the WW I mainly because of the lack of food. The second wave of garden colonies creation in this region was driven by the same motivation during WW II (Štěpánková, et al., 2013). Only after the war gardening changed from an essential subsistence activity to a free-time hobby. Allotment gardens were set up for cities with over 50,000 inhabitants, but several years later, smaller cities and towns also established allotment gardens. The first guidelines for allotment gardens in Slovakia were approved by the Slovak Association of Gardeners and Fruiterers in 1957 and the organisation developed further in following decades with the biggest expansion between the 1979 and 1989. The association had 220 thousand members in that time. Later some allotment gardens were abolished due to problematic contractual terms. The market situation changed as well, so the organisations that were oriented on the production of fruits and vegetables for sale disappeared. Currently the Slovak Union of Allotment and Leisure Gardeners has more than 80 thousand members (Slovenský zväz záhradkárov, 2012).

### 3 Scientific Questions and Theses

#### Theses

- 1. Community gardens in Bratislava are offering a long- term possibility of subsistent production for everybody.*
- 3. Urban gardening is a form of land use that can be integrated into existing structures.*
- 4. Urban gardening offers a possibility to realize the values of social interaction, human-nature relationship, production of food and sustainable education.*

#### Questions

Is the capacity of community gardens sufficient for people interested in this kind of activity?

Are the community garden sites used just temporary or on a long-term basis? What do the gardeners prefer?

What kind of land is used for community gardening in the city and under which conditions?

What is the ideal distance between community garden and home of a gardener?

Are the community gardens improving the relationships of local residents?

Is it possible to use a community garden for educational purposes?

What kinds of activities are performed in community gardens?

## 4 The Investigation Area Description

### Bratislava

Bratislava as the capital of Slovakia is one of the youngest capitals in Europe and with a population of almost half million it's the country's largest city. It lies on both banks of the river Danube, the second largest river in Europe and the foothills of the Little Carpathians. Bratislava is situated on the border of three countries. In the south it is bordering with Hungary and to the west is Austria. The administration of the city is divided into 5 districts and 17 boroughs, each of which is independent legal entity with its own mayor and council. The largest of them is the main communist-inspired development, Petržalka, which is with its high-rise concrete blocks of flats home to almost 120,000 residents.

The city was called Pressburg or Pozsony and it was one of the most important cities in the Austro-Hungarian Empire. It has a rich history of a multilingual city with interesting mix of various cultures and ethnic groups that influenced its evolution. However, several political changes in the 20th century changed rapidly the social composition of its citizens. In 1910 there were living 40.5% Hungarians, 41.9% Germans and only 14.9% Slovaks, but in 1950 the demography changed already to 90.2% Slovaks, 3.5% Hungarians and 0.6% Germans (Bitušíková, et al., 2010).

The Bratislava region accounts for about a quarter of the gross domestic product in Slovakia, even though it is the smallest of all eight official Slovak regions. Region occupies the western part of the territory of Slovakia and has a relatively eccentric position. An important geographical feature or a major phenomenon of Bratislava and the whole region is the Danube River.

Bratislava is part of a triangle crossroad, which is connecting the capitals of three countries. Bratislava and Vienna are the closest capitals in the world, separated by only 66 kilometres. The Hungarian capital of Budapest is just 200 kilometres away. Excellent location of Bratislava was one of the prerequisites of its significant national and international importance. Nowadays a boost of development activities in the economic sector, cultural and social cooperation, the goods circulation and the growth of tourism is evident. Experts regard Bratislava as one of the most dynamically developing and most prospective regions in Europe. (Bratislava, 2005).

Unemployment in Bratislava region is 5.03%, what is quite low comparing to the whole Slovakia 9.42% (upsvar, 2016)



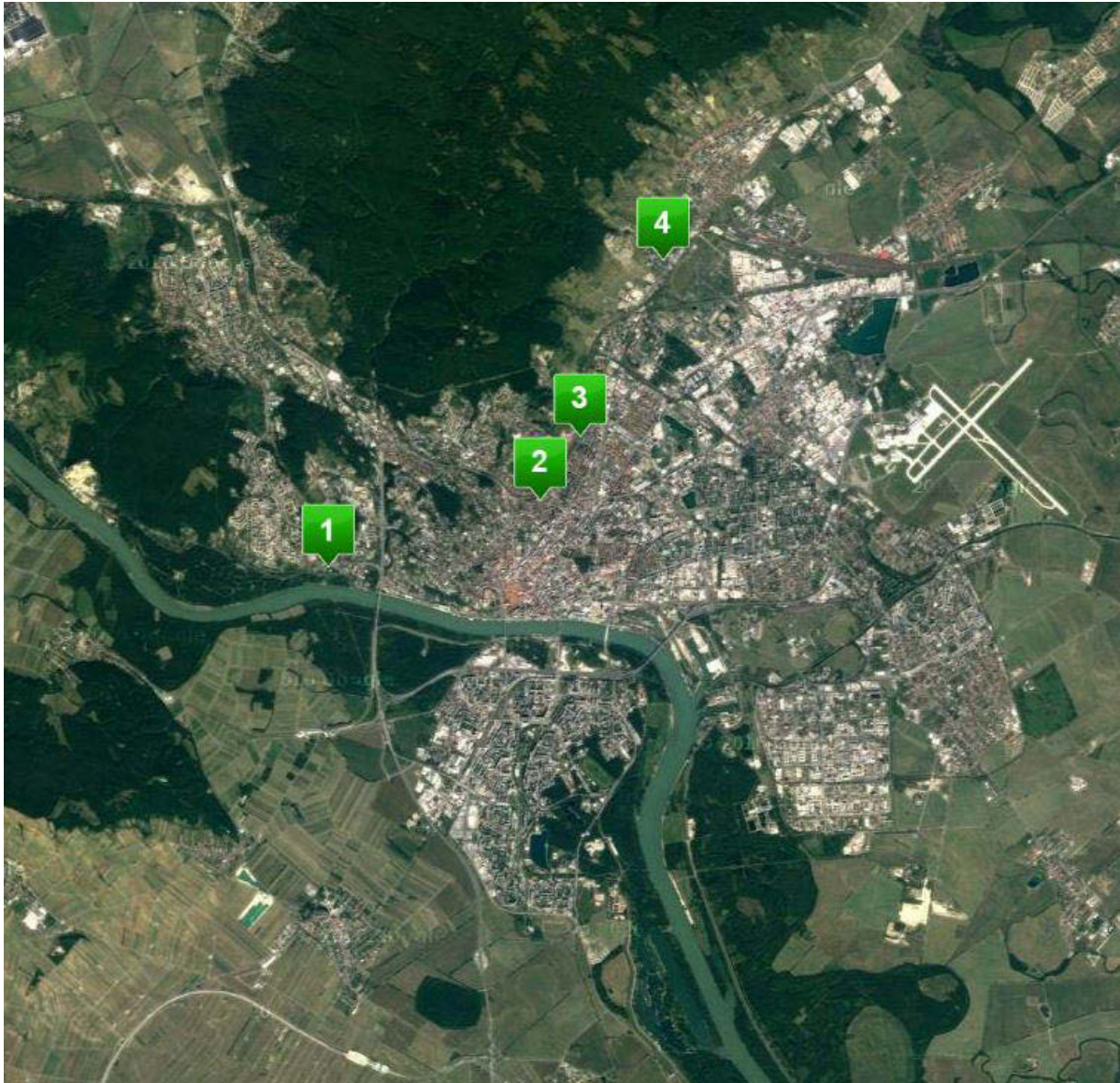
## Selection of case studies

The diversity of principles, concepts and approaches in community gardening is really wide and each case is different. It is difficult to summarize the conditions that prevail throughout the whole city into few case studies. Every garden is unique due to its origin, community composition and surrounding conditions. In this paper I have chosen to explore and analyze only four case studies that should illustrate the wide range of possibilities and issues.

Each one of the four case studies was chosen because of a specific attribute:

- Krasňanský zelovoc: Started in May 2012. Officially the first community garden in Bratislava is known for its young community, consisting mainly of parents with small kids. The cooperation with the family centre Ráčik is essential for their existence.
- Community garden Vodárenská: The first gardening season was in 2013. The close cooperation with the two organisations Centre for Environmental and Ethical Education "Živica" and Regional Association for Nature Conservation and Sustainable Development "BROZ" has significant influence on the ideology of the garden. Permaculture, sustainability and ecosystem are the most important keywords of this case.
- Community vineyard Pionierska: Established in 2015. The voluntary revitalisation of an old vineyard owned by the city, mixed with a community garden is a big challenge for both, the community gardeners and the municipality.
- Mobil garden Karpatská: Established in 2016 within a schoolyard of a special school with kindergarten. The initiative of the school headmaster in combination with the management of the civic organisation Vnútroblok have led to an interesting scenario. This garden was chosen because of the interconnection of education with gardening, disabled children with local community.

The figure 1 is showing the location of the community gardens that serve as case studies in this research. The gardens are situated in different city boroughs.



**Figure 1: Location of case studies (gardens) in the city of Bratislava. 1. CG Vodárenská in Bratislava IV - Karlova Ves 2. CG Karpatská in Bratislava I - Staré Mesto 3. CG Pionierska in Bratislava III - Nové Mesto 4. CG Krasňanský zelovoc in Bratislava III - Rača (Source: Google Maps, own arrangement)**

Although the additional elements of the selected community gardens are different, there is a common structure that can serve as the basement for comparison. Each chapter with a case study is subdivided into following sections:

- Site analysis
- Spatial organisation
- Zone plan description
- Garden production
- Social organisation

- Financial organisation
- Concept and history
- Activities
- Interpretation

To collect information and indices all available methods and sources were used. Multiple site visits, conversations with the gardeners, detailed interviews with organisers and some gardeners, written published but also unpublished materials, local newspaper articles, internet web sites, social network groups and profiles related to the gardens.

## **5 Landscape Planning Theories and Methods**

This chapter serves as a theoretical corner-stone for the whole thesis. I want to describe here the professional approach that is essential for my research. This ideas were forming my scientific, but also personal guidelines and values.

### **5.1 Metatheory and methodology**

Landscape planning analyses the built environment together with the social structures. Hence all the activities and interactions performed by the local inhabitants as users are inspected and interpreted in the close correlation with current landscape, objects and buildings. Landscape planning is based on its own theory, but to identify, collect and understand necessary facts as well as for their interpretation it uses also other theories.

### **5.2 Science of Indices**

For the understanding of particular locations and situations in deeper consequences I used the science of indices as is usual for modern landscape architecture. This model based on the interpretation of clues is used since the 19th century by art historians, criminalists and medical scientists (Ginzburg, et al., 1980). The main objective of this science is to recognise and describe the tracks, indices of a phenomenon. "This knowledge is characterized by the ability to construct from apparently insignificant experimental data a complex reality that could not be experienced directly." (Ginzburg, 1989) The indices in landscape planning are the construction-material facilities and traces of use. This can give references about everyday use, the framework and the importance of the location (Fuchs, 2005).

In art history is the method of iconography and iconology transforming the results of analysis from everyday life to the works of art (Panofsky, 1981). Hence it is possible to discover the meaning in three layers:

A pre-iconological description is identified by pure forms, lines and colours of the picture. These are the primary natural meanings and it reveals the artistic motifs (Panofsky, 1981). Translated to landscape architecture the pre-iconological description corresponds to the description of landscapes or locations without interpretation. Those are the documentation of the open space or landscape, drawing of the site, thesis formulation and survey of factual land uses. In this step it is important to watch and describe the configuration, uses and traces of use (Fuchs, 2005).

The second layer is the secondary or conventional meaning that we can identify by iconographic analyses. These are the secondary concepts manifested in images, stories and allegories such as a fight of two figures can symbolize the Combat of Vice and Virtue for instance (Panofsky, 1981). According to landscape planning we can see the iconographic analysis as the interpretation of mapping, documentation, intakes, types and land uses. Similarly as in the art history there are some building and open space structures in landscape planning representing particular themes, visions or models (Fuchs, 2005).

The content or intrinsic meaning can be revealed through iconological interpretation. This method the setting of nation, historical period, class, religion or philosophy is manifested. All these aspects are mostly hidden for the artist himself and they can even differ from his own conscious interpretation (Panofsky, 1981). These are the symbolical values or images of landscapes, locations and planning. With this interpretation it is possible to analyse the complete situation, cultural symptoms and history through comparison and contextualisation (Fuchs, 2005).

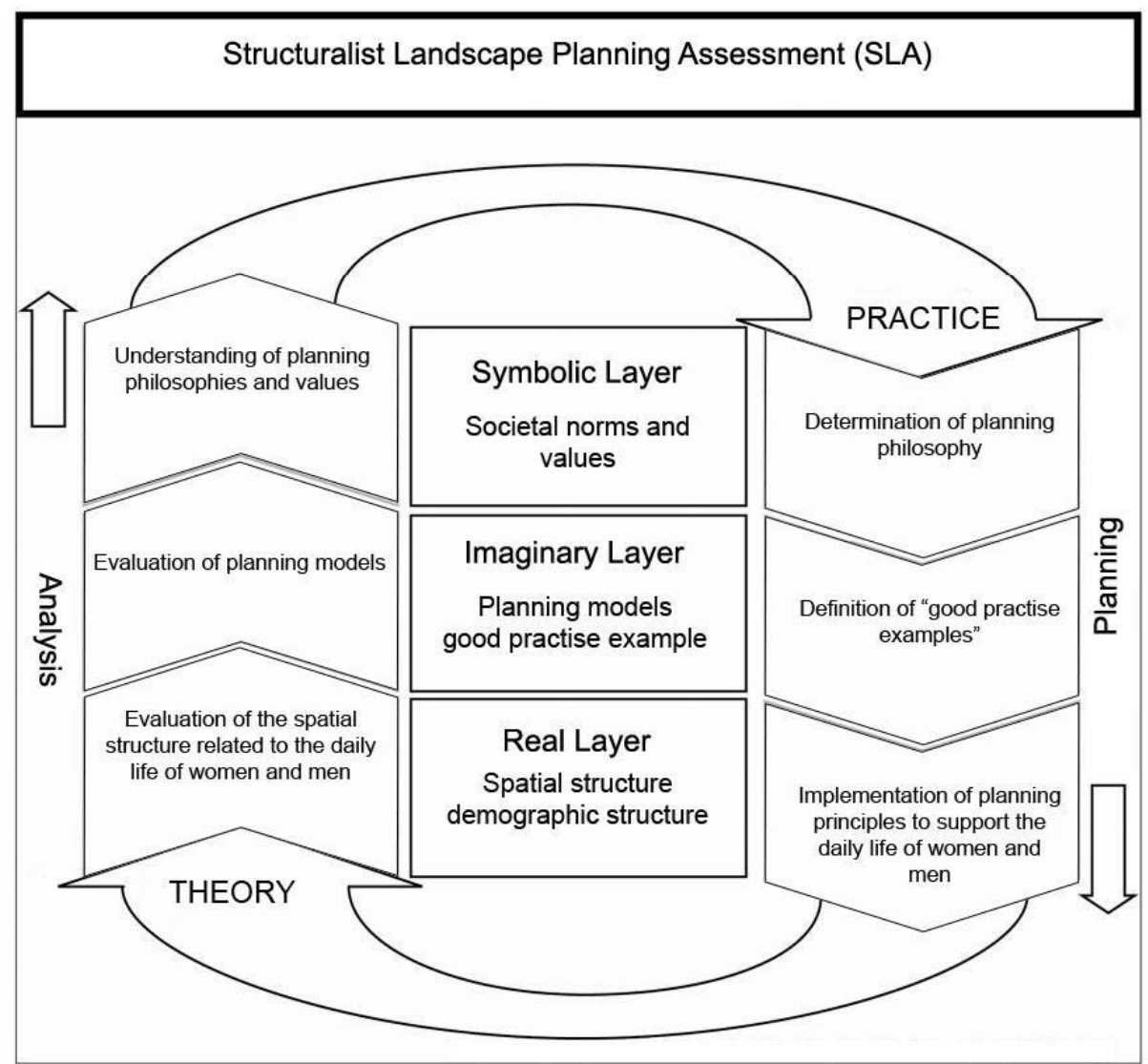
## **5.3 The Method of Structuralist Landscape Planning Assessment**

The tracking of indices and their analysis with iconology requires the differentiation. The essay about structuralism from Gilles Deleuze (1967) can serve as the basis for it. He is describing the three different elements of order: The real, the imaginary and the symbolic. The real is what we can see, what we do, what we can perceive. The imaginary is the vision in our head, wishes and phantasies, it is characterized by mirroring and double projection or meaning. The symbolic is the structure of the previous elements, beyond real and imaginary, it is the sense (Deleuze, 1967).

The table 1 by Doris Damyanovic is showing an excellent translation of this structuralist principles into landscape planning. The structural-spatial organisation of the location and all the active persons are evaluated on the real level. This leads to the review of planning guidelines and models in cultural context that are usually inserted unconsciously. On the symbolical level the values of planner and residents are analysed. This level is important to understand and evaluate the real and imaginary level with the support of literature and philosophy of landscape planning (Fuchs, 2005).

The planning follows the other direction with the understanding that planning philosophy is able to articulate the planning models and guidelines, and realise them with focus on the daily life of citizens. Someone who wants to plan open spaces, must therefore say, for whom

are they planned - who does he address by them. When it's clear, he must take the recipients seriously: their work, experience, opinions, wishes (Hülbusch, 1978).



**Table 1: Structuralist working method in landscape planning (Damyanovic, et al., 2009b)**

The Structuralist Landscape Planning Assessment is a gender-sensitive method based on critical theory of landscape planning (Schneider, et al., 2002) and on the feministic difference concept. It is analysing the actual situation with all values, visions and structures that discriminate against men or woman and should provide equal access to urban landscapes for all (Damyanovic, et al., 2009b).

Hence with all the theory described above we returned to the first idea, namely planning of open spaces. The landscape planning isn't looking for final solution because the daily life is all the time circulating, never ending. "It (landscape planning) should develop open spaces

for independent decisions through the use of natural resources to enable the subsistence-oriented activities and labour." (Schneider, 1989)

## 5.4 Theory of subsistence

The theory of subsistence was developed by Veronika Bennholdt-Thomsen, Maria Mies and Claudia von Werlhof in 1970es. The main idea is the contradiction to modern capitalist market economy that is focused on the growth economy and wealth accumulation achieved by violence and social differentiation. Subsistence production is the production of production of life, as illustrated by Bennholdt-Thomsen (2011), it includes all work that is expended in the creation, recreation and maintenance of immediate life and which has no other purpose. It stands in opposition to commodity and surplus value production where money is the main aim.

"With subsistence we describe that what is necessary for satisfied and fulfilled life, in contrast to profit making, consumerism and environmental degradation." (From the newsletter of the Institute for Theory and Practice of Subsistence, Bielefeld/Fögenhof)

Cambridge dictionary has similar definition for subsistence: "The state of having what you need in order to stay alive, but no more."

Subsistence farming can be nowadays essential in low-income countries where markets fail, financial burdens are great and rural poverty is too extensive. Most of the rural households have access to land and that offers a great opportunity for subsistent production (Janvry, et al., 2011). Subsistence could be a survival strategy against the military pressure and exploitation, as it is performed by traditional Maya communities in Guatemala (Milborn, 1999). In Eastern Europe, because of the ambivalent consequences of communist ideology and modernisation were between Baltic and Balkan, following far into east inside, self-sufficient life forms preserved as well (Hofbauer, 1999). But subsistence isn't something from the other side, obscurant, behind the times, something what we don't need here anymore... The era of cheap and abundant oil is over, Peak oil is happening now and our modern society with the growing production of goods is completely dependent on the fossil fuels (Held, 1999). We need to look for alternative solutions of our daily life and subsistence production is fulfilling the base human needs.

From the viewpoint of comfort and prosperity, subsistence evokes visions of poverty, insecure and primitive living conditions. The fantasy of abundance is all around, but all the time there are problems and the system is not really working. The financial crisis for instance: "The banks that caused the crisis received billions of Euros in subsidies and

guarantees from the national treasury. Money belonging to all citizens jointly is handed over to private profit-making interests. These funds will be lacking in the future for community projects and all of us, especially ordinary people -- and thus the majority of the population -- will have to pay the price. The process that began a long time ago continues: the poor get poorer and their number grows, and the rich get ever richer." (Bennholdt-Thomsen, 2011). We are all living in this bubble of comfort and intuitively we all know that we can't go on further like this. But if we and our system are the problem, we are also the solution. Hence we can transform the meaningless labour into the production of food, clothing and housing - something what we really need (Bennholdt-Thomsen, 2011).

## **5.5 Critical theory of Landscape planning**

With the reflections on urban gardening as an open space I want to resume the tradition of critical theory of open space and landscape planning as it was established in 1970ties on the University of Kassel by Professor Karl Heinrich Hülbusch and later published in the series of so called "Kasseler Schule". This theory was further developed in the early 1990ties on the University of Natural resources and Life sciences in Vienna under the professorship of Gerda Schneider in the department of landscape planning through many scholars and students. For the planning praxis with this approach a close look into the daily life of woman and man is essential, as well as the importance of the simple home based every day labour.

### **Open space**

During my whole study I was thinking how to organise my planning perception so that it won't get stuck with the mainstream consumerism and automatic production. I am building up my thesis on the critical estimation of the landscape beautification und landscape maintenance by Gerda Schneider (1989), on the fact that the "perfect", artistic, self-centred planning is leading just to expropriation of the land from the users and devaluation of living space instead of creating open spaces (Böse, 1981). "The "originality" of a designer combined with the dwelling bureaucracy tend to inhibit the chance of residents to settle in, because there is no more scope for reasonable organisation of the everyday life." (Hülbusch, 1978)

Open space is important for urban and landscape planning in many different aspects. Not just as an open space in the city, where are the building structures and spatial organisation analyzed, but also as open space for the activities of citizens, transformation capacity and scope for decision-making (Kurowski, 2003). This is linked to the co-operative engagement of local authorities and last but not least, to the open space in the approach of the planner.



He has to search for wisdom and experience during the whole process. Differ between oneself and the others, and look for relations. Act according to own will and not under the outer control. (Schneider, 1989).

## **Inside and outside space**

A house as a place of domestic production is a precondition for everyday life (Fuchs, 2005). Inge Meta Hülbusch (1978) described such complete living conditions as disposition of "inside house" and "outside house". Whereas the inside house is the private living space, the outside house is the whole acquirable space outside the building. The possibility of appropriation of this space is a social and economical necessity (Hülbusch, 1979).

So "home" is not just the inside house- the accommodation, but the outside house, all the courtyards, gardens and streets as well (Hülbusch, 1979). These are complementary locations that are connecting the private disposal and public contact; controlled, but available (Hülbusch, 1978). Hülbusch is describing the use of outside house as an everyday need but also as a requirement for occupation and socialisation of a residential area. Residents can use the outside spaces as half-private, a courtyard, or garden for instance, can be closed for the wide public and used only by a family or community. They can establish there their own rules and they don't need to follow the usual social standards.

Hence if we consider that the ideal of Hülbusch's concept is a house with garden, then there are highly restricted conditions in urban areas with residential units and block houses. Therefore it is necessary to understand the linkage between inside- and outside-house in urban residential areas as a further connection with the district (Hülbusch, 1978).

Residents need to have possibilities and space which they can take as their own, transform it and develop further. The task of the planner isn't therefore the exact organisation of the analysed needs - but rather providing opportunities to the just outlined needs. In which way are these opportunities going to be utilized, is not the business of the planner, but the concerned persons. The perception of opportunities is the appropriation or interpretation of the free space (Heinemann, et al., 1989). Usually there are many spaces ready for use in the city, but they have some predetermining function.

## **Dysfunctional spaces**

The ordinary planning method is usually following the assumption that the designer knows everything about the needs of the users. Heinemann and Pommerening (1989) are writing about the dysfunctional spaces, gap spaces or nobody's land. They say that in contrast to

the structures which are disciplined, predetermined from outside, the residents need space for action and later acquisition. But the occupation can happen only if the free space is really vacant without any predefined specifications. The authors are pointing out that the term 'Dysfunctional' shouldn't be understood as something that isn't working, not 'functional', but rather as an openness to various other options of functioning. The whole planning is about organisation and preparation but it is good to keep some open space, because things that are just slightly organised or not at all organised, offer leeway and possibilities for new, unexpected and totally different forms of organisation (Heinemann, 1989). As an example can serve the children's room that can be boring and have a restraining effect if it should be completely and constantly kept in order, on the other hand, the order is giving certain feeling of safety and it is necessary in some case.

The separation of the functions is always tending to "order" and with this preventing the increase of practical value of spaces, that can develop over time by unpredictable conditions but an open space will be never ready. The expressions of life are continuous, interests, residents, communities, norms and needs are always changing (Heinemann, 1989; Böse, 1981).

## **The complete organisation of open spaces**

As mentioned above, the outside house isn't just the front yard of the housing unit, but it is stretching out deeper into the district. The streets, squares, playgrounds, parks and even dysfunctional places are part of citizen's everyday life. However everybody has different way how he can utilise the capabilities of surrounding environment, because the times and locations of people are managed diversely economically and socially (Böse, 1981).

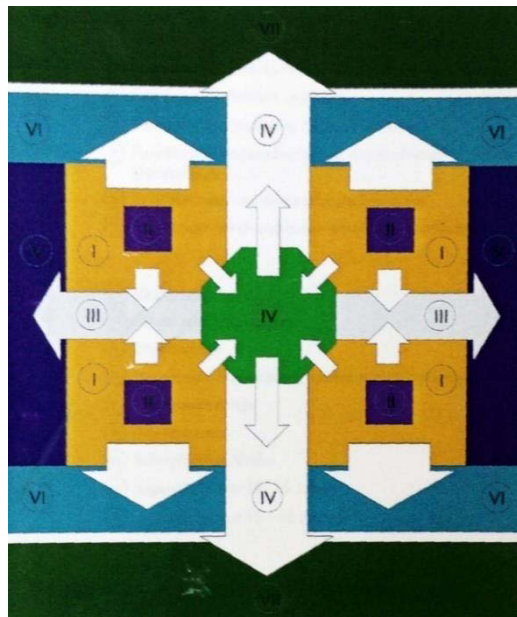
The residents are dependent from the organisational structure, but as far as there are so many groups of users and even none is the same, depending from age, family situation, social situation, they will have variable requirements and interests. So there isn't any ideal realisation of urban environment. Almost everything depends on the users.

"We, as designers of open space, shouldn't project free spaces, that entail a certain performance. We could provide certain structuring and organisation forms as dispositions, that can stimulate behaviour through their usability and publicity" (Böse, 1981).

According to Maria Köck (2002) there are seven different space classifications. The Figure 5 is showing connectivity of the spaces.

Open spaces related to house are important for all users and they represent the closest surrounding according to the inside/outside house. They need to be accomplished with a

courtyard and garden, so the socially productive people - woman, kids, old people and unemployed have a possibility to live and do their daily tasks, not just dwell (Hülbusch, 1978). These spaces are used by kids a lot.



**Figure 2: the complete organization of open spaces (Source: KÖCK, 2002)**

I. Open spaces related to house (inside / outside house)

II. Open space in the neighbourhood (squares, parks, playgrounds)

III. Open spaces of streets and walkways

IV. Open spaces of the district (squares, open area)

V. Functionalized open areas of the district (sport areas,...)

VI. Edge of the district, outskirts / dysfunctional open areas

VII. Edge of the town (agriculture and forestry)

II Open space in the neighbourhood represents an important opportunity to contact each other. This kind of public space offers the possibility to forge social contacts. The role of planning is to preserve space for such facilities, or create it there, where it doesn't exist (Heinemann, et al., 1989). For users with wider action radius they serve as transition zone.

III Open spaces of streets are connecting places and people. Mostly used by women, children and elderly people by foot.

IV open spaces of the district are primarily used by children and adolescents. They can socialize, find new friendships and retreat there. Also elder people, housewives and househusbands use this space, because they participate on public life there.

V functionalized open areas of the district, for instance sport fields or allotment gardens. Mostly used by teenagers and their use is related to their accessibility.

VI edge of the district - dysfunctional areas are used again mostly by kids and teenagers between 13-15 years. Last space type is

VII edge of the town extensively used by agriculture and forestry (Köck, 2002). Used by older teenagers, but also by adults for recreation and sport.

All this areas are further shaped by the citizens. The continuous use produce always new visible changes or traces and the traces of use create again the invitation for next appropriation (Heinemann, et al., 1989).

## 6 Case Studies

### 6.1 Community Garden Krasňanský zelovoc

<b>Address:</b>	Cyprichova 2475/6, Rača, 831 54 Bratislava
<b>Establishment:</b>	May 2012
<b>Management:</b>	Community of 27 families in cooperation with family centre Ráčik
<b>Partners:</b>	Foundation SPP (Slovak gas Industry company) with a grant, city district Rača, family centre Ráčik,
<b>Site owner:</b>	City of Bratislava, Administrated by the city district Rača
<b>Lease agreement:</b>	5 year tenancy agreement with symbolic rent 60 € per year
<b>Size:</b>	610 m <sup>2</sup>
<b>Number of plots:</b>	29

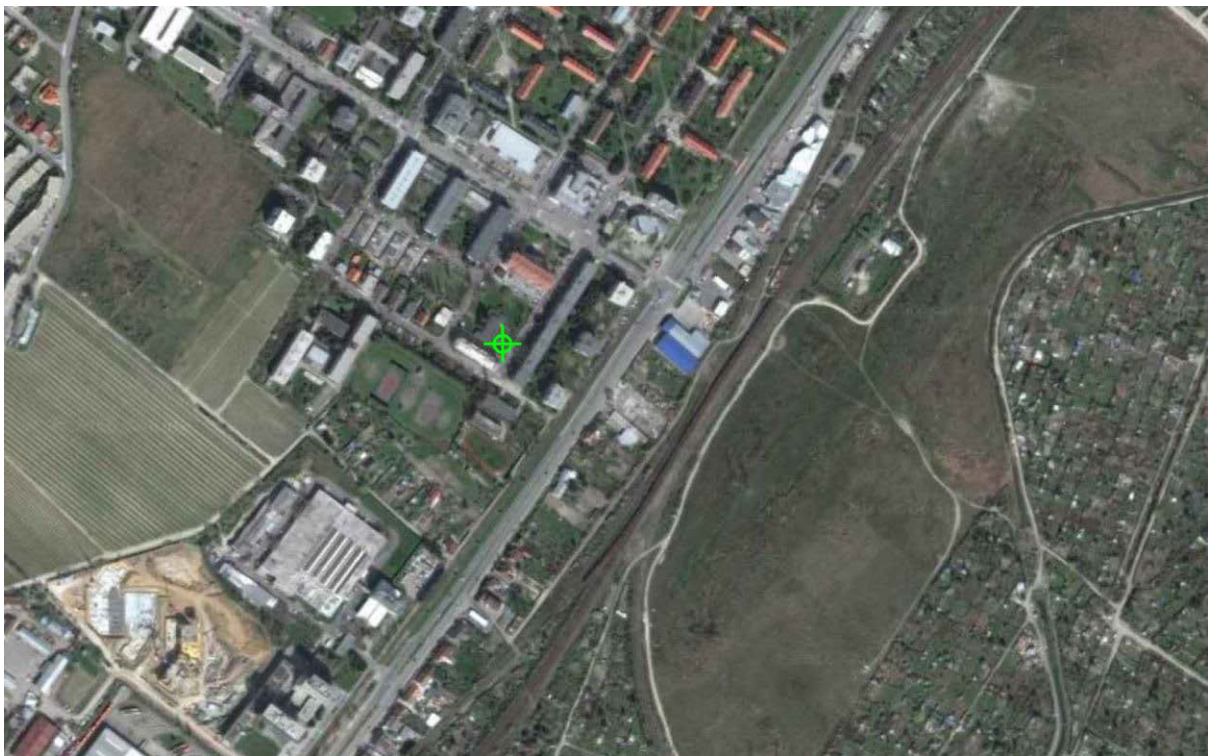


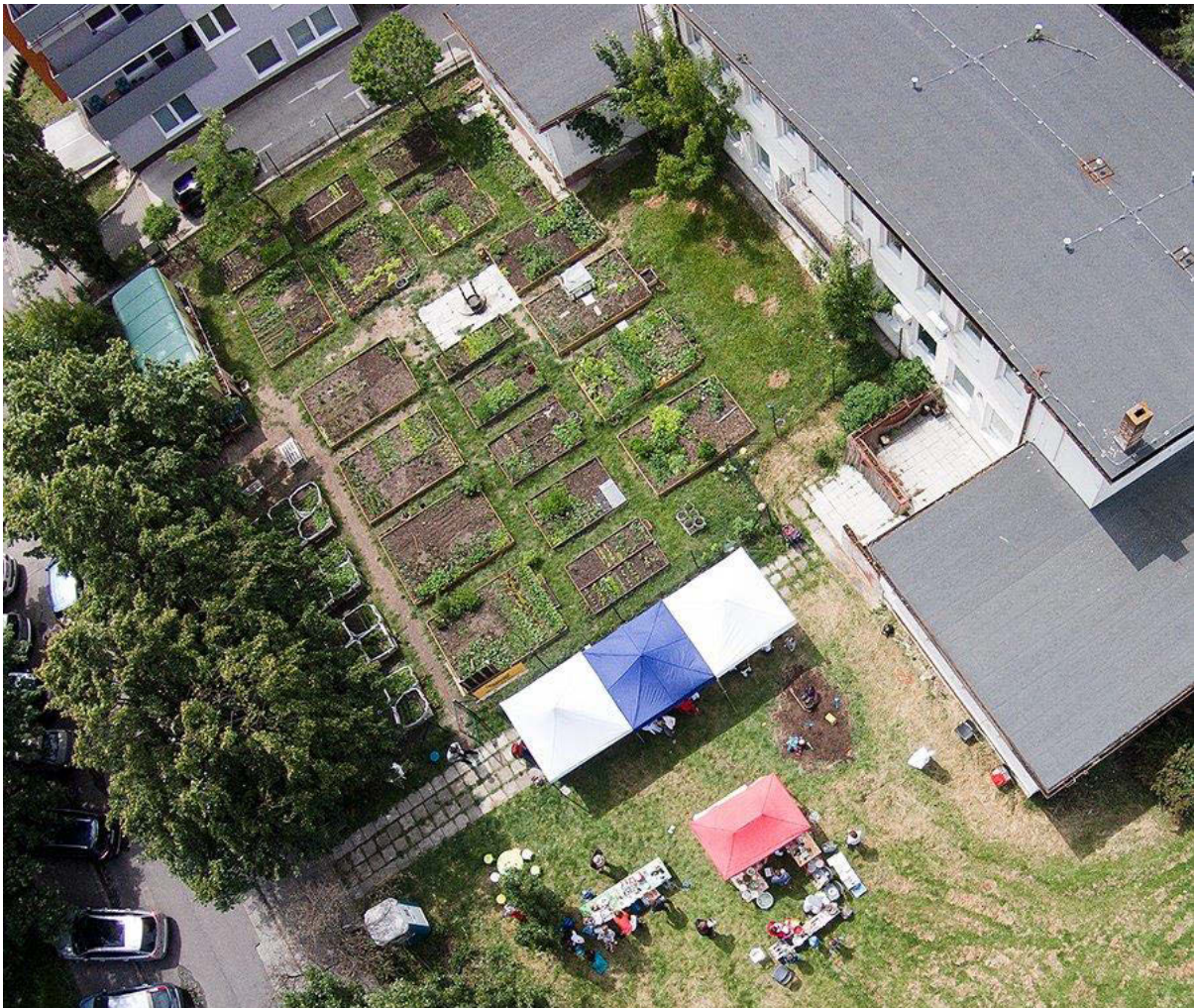
Figure 3: Location of Community Garden "Krasňanský zelovoc" and close surrounding,  
(Source: Google Maps, own arrangement)



## Site analysis

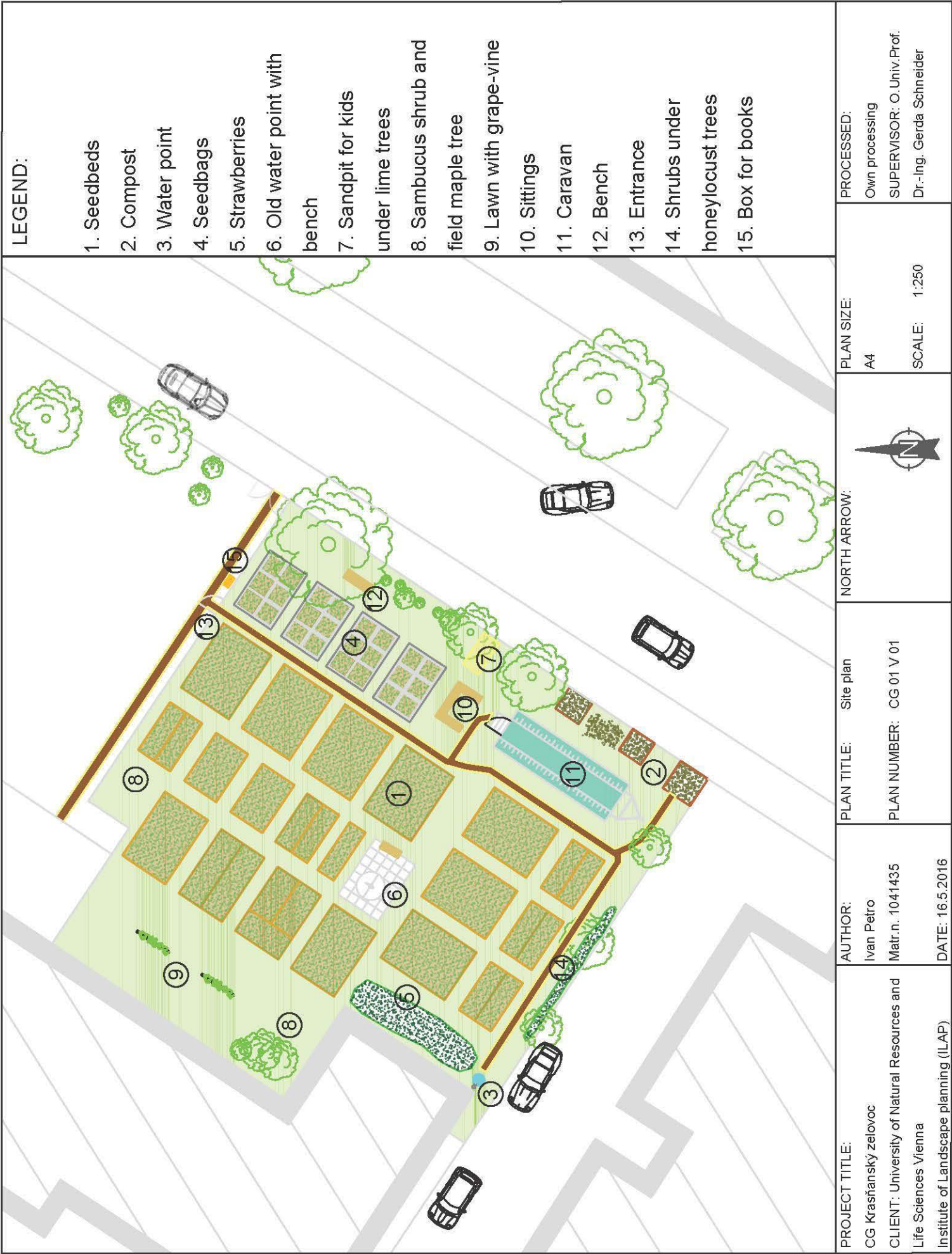
Rača is rich on green areas, especially vineyards and forest in the north western part of the district. The city part has 22 380 inhabitants and most of them are in the age between 30 - 40 years. (pomosam, 2016).

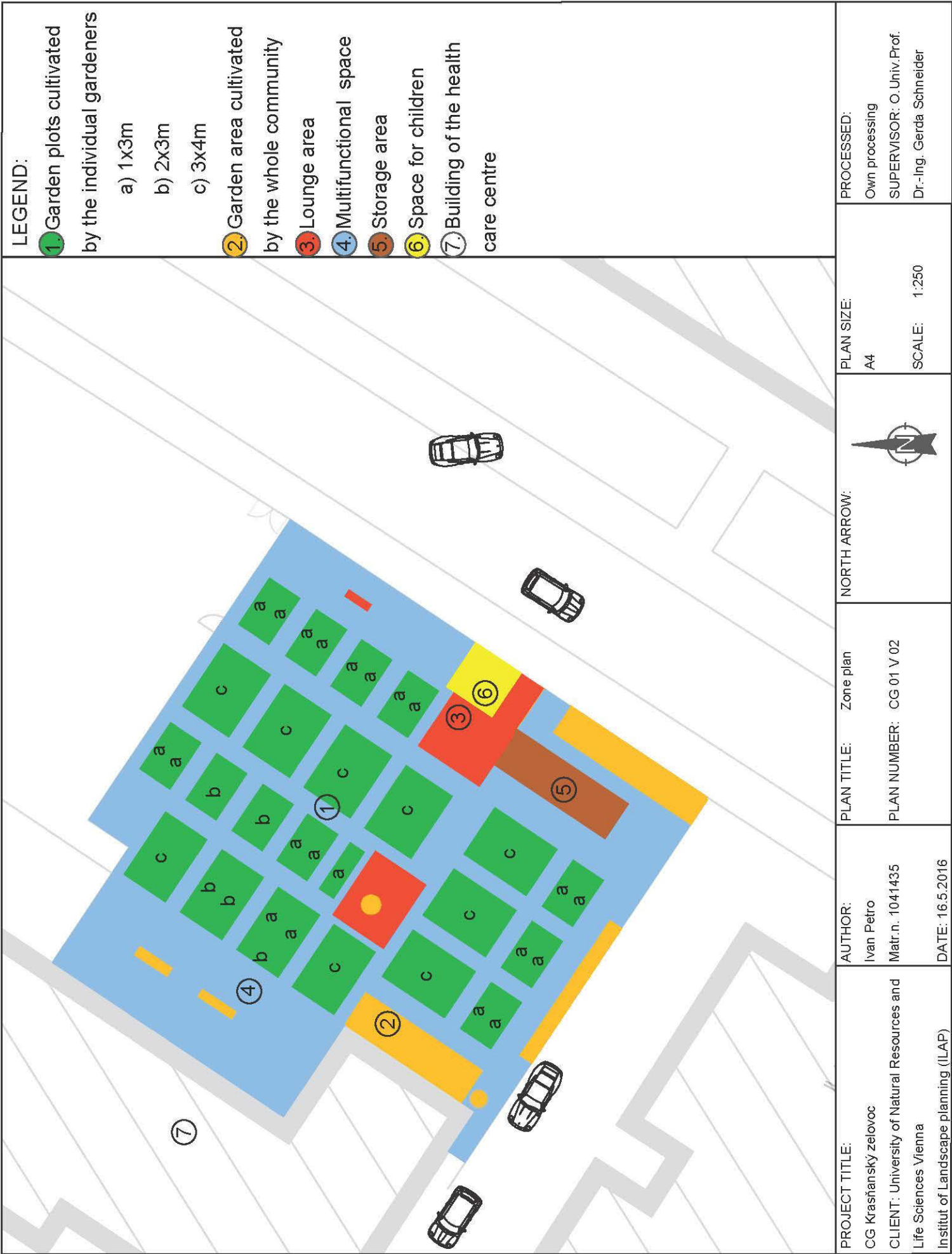
The garden is surrounded by blocks of flats and adjacent building of health care centre (Fig.3). There is a large multifunctional sport area in the close neighbourhood and behind it, in the southern direction is an industrial area with storage hangars and offices. Following the eastern direction from the garden, crossing a wide road and railway, one can get to an open space of unused meadows and a big area of allotment gardens called Žabí Majer. The prices of such an allotment garden are quite high, a 400 m<sup>2</sup> plot with a small hut can cost round 20 000 euro. The north-western direction is leading to Bratislava City Forests that are part of the Small Carpathian ridge.



**Figure 4: Aerial view on Krasňanský zelovoc during the Restaurant day in May 2014. On the right is the building of health care centre. On the left is visible the Cyprichova street. (Source: Rebro, 2014)**









## Spatial organisation

Located on the grounds of an old healthcare centre the garden is accessible for the gardeners at anytime. High lime trees (*Tilia cordata*) together with few shrubs of oval-leaved privet (*Ligustrum ovalifolium*) are hiding the south eastern view on block of flats along Cyprichova street. Acceding from this side to the ground of health centre one can realize an open space on the right hand that is covered just by lawn with single trees and on the left in a simple wire fence is the entrance to the garden with lockable door. An open wooden box with books next to the door is inviting the passenger to take or leave there something to read.

The central area of the garden is occupied by raised beds and jute bags for gardening. The jute bags are on the left site along an unpaved path that is leading the users through the garden and all the raised beds are on the right site. Between the jute bags and fence is a bench. The attention of a visitor is attracted by an old renovated caravan with flowers on the side located in the south eastern corn (Fig.5.). In front of the caravan that is serving as a storage room and tool shed are benches made out of pallets and a tiny sand box for children. All the compost is hidden further behind the trailer. The central point of the whole area is marked by a palette bench and an old well that is connected to a underground rainwater reservoir. The second water source with tap water is in the western corner. Along the wall of health centre that encloses the garden from northwest are planted strawberries, field maple tree (*Acer campestre*) and a short line of vineyard. The south-western borderline is planted by eatable shrubs such as raspberries or blackberries and three thornless honeylocust trees (*Gleditsia triacanthos var. inermis*).



**Figure 5: The renovated caravan serves as a storage space. In front of it is a small playground for kids and a meeting place with benches made out of pallets. (Source: Own photos, 2016)**

## Zone plan description

There are three different available plot sizes a) 1x3m<sup>2</sup>, b) 2x3m<sup>2</sup> and c) 3x4m<sup>2</sup>. Each of them belongs to one responsible person, but mostly are gardening whole families or couples on the plots (Fig.6). This plots cultivated by individual gardeners containing 196 m<sup>2</sup> all together,

in combination with a small lounge site are occupying the main central area of the whole property. The second, but more important lounge spot is situated in front of the caravan that serves as storage space. This area designed for relaxation and meetings is interconnected with the space reserved for children. The garden area cultivated by the whole community is situated in the marginal areas as well as the multifunctional space that consists mostly of paths and open meadows. The responsibility for the maintenance of the multifunctional and lounge areas are taking all community members.



**Figure 6: The density of gardeners in Community Garden Krasňanský Zelovoc is quite high. This can be caused also by the fact that most of the parcels are used by young families and not just individuals. (Source: Mikuška, 2016)**

## **Garden production**

The diversity of planted crops in the community garden Krasňanský Zelovoc is quite high (Fig.7). Most of the gardeners prefer quick growing vegetables such as radish, rucola, diverse salads and spinach. Very popular are also tomatoes, gardener Petra planted in 2015 five different kinds of them. Her big success is also the harvest of paprika. Matej had a nice harvest of beetroots, tomatoes, zucchinis, salads, strawberries, rucola. He tried to upgrade the small plot for gardening with a vertical bed made out of a pallet. He planted strawberries



into the pallet and realized that the rainwater wasn't enough and such a growing bed needs more watering (Hájek, 2015).



**Figure 7: The plot variant 3mx4m in community garden Krasňanský Zelovoc with crop composition during highest season in June 2016. There is kohlrabi, salads and the rest of green peas on the right, marigold in the front line, young carrots in the middle behind the flowers and further back are the strawberries with tomatoes (Source: Own photo, 2016).**

The gardeners with kids have mostly strawberries on their plots, mixed with green peas. Lenka is growing also garlic, flowers and kitchen herbs. Veronika had a lot of green peas, spinach and some salads.

"We tried to grow many different things. From small carrots to rhubarb that reached almost two meter high and I hope that it didn't shade other plots... And rucola! We had an awful lot of rucola! It was so much that the whole plot was covered only with rucola for two years! Now there are also strawberries." (Eva Rusková in Hájek, 2015)

Matúš grew also some more demanding crops such as aubergine, zucchini, beans, kohlrabi and brussels. He made even a small movable cold frame for seedlings. He experimented with upside down cherry tomatoes planted in a hanging flowerpot (Hájek, 2015).

## **Social organisation**

The hard-core of the community are mainly young families with kids (Fig.8). A female gardener Veronika called it "diaper colony" and she explained that the social and educational elements of the gardening activities are probably more important than the production.

"Children can see how it (plants) grows." There are also young pairs and couple of seniors gardening as well.

Most of the community members are from the close neighbourhood but few families need to travel approximately 30 minutes with public transport to get to the garden.

Nobody can supply his household with vegetables completely from the garden production, but the possibility to grow food, or spend some time outside together and meet likeminded people are the main motivations for the gardeners.



**Figure 8: The majority of the gardeners are young parents with small kids.**

**(Source: krasnanskyzelovoc, 2013)**

The community garden itself doesn't possess any official status. All the organisation is covered by Family centre Ráčik but the gardening community set up basic principles in internal statute. There is a committee consisting of seven members with equal position. All important decisions are approved by them. Although it may seem that the garden is just one of the family centre projects, it has very strong consolidating effect and the gardening community is organising also other projects beyond Krasňanský zelovoc.

## Financial organisation

The funding basement was the financial support from SPP Foundation. The project got 1 049 votes in an internet voting and was supported in total amount 8 070 €. Second important partner is the municipality of Bratislava that offered to Krasňanský zelovoc 2 615 € from participatory budgeting. These two financial resources covered all the necessary expenses in the beginning like the purchase of tools, water reservoir, caravan and materials for growing boxes or the importation of soil.

The community members are paying gardening fees 30€, 45€, 50€ depending on the plot size. They can raise 1000 € per year. This money covers the rent, water rate, and basic maintenance costs. It became already a tradition to organise a Restaurant day in the garden. This helps to raise some funds for the garden as well.

## Concept and History

Krasňanský zelovoc is the first official community garden in Bratislava that attracted also the media attention. The founder and author of the project is Miroslav Dudlák. He saw similar community gardens abroad and wanted to create something similar in his neighbourhood.

"Together with my partner we moved into a village, located one hour by car from Bratislava. But we missed the city life, so we came back. We chose Krasňany because of the green areas around. Everything was perfect except one thing, we needed a small garden. So it all began".

Now he abandoned his gardening plot for other motivated gardener and takes part only in the organisation of the community. As a member of local family centre Ráčik Miroslav spread the idea around and found plenty of interested collaborators. Most of the people found out about the planned activity from a simple leaflet that was hanging on the wall in the family centre, but the emerging community didn't want to arise as a closed group of close friends. They put an advertisement into the local newspaper to open the chances to participate on the project for whole city part. The next step was the application for funding in an online competition, managed by the SPP (Slovak gas Industry company) Foundation program for public good. Their project won an online voting and they got the essential financial support.

The local mayor of the city part was very partial about a community garden in the district and after some negotiations they got into use a part of the grounds of a medical centre just for symbolic rent. The city part Rača determined a part of the participatory budgeting for Krasňanský zelovoc as well. The positive response from the officials and their active cooperation encouraged the little community of prospective gardeners and they started the building process. The community has done the whole planning, organisation and labour by themselves. They built a fence with gate, ordered high quality soil and distributed it into the handmade boxes, bought and renovated the caravan and together with a excavator dug the rainwater reservoir under the surface. The garden was officially opened together with all interested officials, co-partners and friends on 22 May 2012.

Unfortunately two weeks later in the highest growing season the garden site was completely destroyed by vandals. Lot of volunteers and sympathizers helped to rebuild the devastated crops and the community garden experienced a second birth. For some of the gardeners was this experience too much and they left but there were immediately new persons concerned. There is also a positive side of this whole incident. The assault attracted the attention of media and the gardening community got many new friends and fans. They also realized that some media are looking only for sensations and that they want to cooperate



only with serious partners. Since that time the garden is prospering without any bigger affairs and reconstructions.

## Activities

As far as this community garden is the first one in Bratislava that communicated openly about their activities with media, they got a lot of attention and public interest. The gardeners from Krasňanský Zelovoc spread around the idea of community gardening in many different ways, such as articles in local newspaper, interviews on television, workshop about food growing, cooperation on a whole documentary movie about the garden and presentations on festivals and events related to community organisation, horticulture, health living, environment and urban life.



**Figure 9: Very popular among the gardeners and supporters of the community garden in Krasňany is the Restaurant day. (Source: Rebro, 2014)**

For this community that consists mainly of young families with small kids is essential the socialization. The most popular event that they organize is the Restaurant day (Fig.4 and Fig.9). It is related to the international World Restaurant Day, when anybody can open a small one day restaurant at home, in the office or anywhere else. The community members cooked different dishes and served it for visitors at open air directly in the garden. The positive reactions from the public motivated the gardeners to organise a similar event

second time together with local immigrants from different countries that cooked their traditional food and presented handcrafts. The Restaurant day took place in Krasňanský zelovoc already five times since their existence.

The bad experience with vandalism after the official opening in 2012 showed that not everybody supports the idea of a community garden in this area. As a feedback the group around Zelovoc organized a local brigade for reconstruction and beautification of the Cyprichova street. They revitalised the tree pits along the sidewalk, mowed the lawns and seeded new grass, planted some flowers and together with a local pensioner built a small birdhouse.

All the activities in garden are related also to the family centre Ráčík. The family centre members and most of the gardeners are local citizens so they organise also some cultural events for surrounding neighbours. A Bicycle cinema in cooperation with a foundation Cyklokuchyňa (bikekitchen) was one of them.

Important point is that the gardening community is reinforced through the collective labour and activities and that extended their operation also beyond the borders of Krasňanský zelovoc. Now they cooperate with two other organisations that focus mainly on the youth and streetwork. They want to create a local youth centre with workshops, events and activities in an old unused building.

## **Interpretation**

Krasňanský zelovoc is a family oriented half-private, communal space for local residents. Anybody has the possibility to participate, though the neighbours from close surrounding are favoured. The area of this community garden is quite small and there are still more concerned persons than the plots used for gardening. The rest of the park that belongs to the medical centre is already sold and there should be a new building in the future, so there is no possibility to extend the gardening area in this place. Miro Dudlák sees only an advantage in it: "The higher demand than the offer can strengthen the will to do something. There is a female here in Rača that planted pumpkins and salads into a small green stripe along the sidewalk in front of the blockhouse where she lives. Krasňanský zelovoc can be an inspiration for other people that are dreaming about similar activities and if someone really needs a garden than he will find a way how to realize it."

The area of the community garden is primarily used for gardening but the community organises lot of public events and activities that interconnects them with other residents. Most of the gardeners prefer to use their plots for longer time than just one or two seasons

and they appreciate the collected empirical experience. Very popular are quick growing vegetables that can be produced and consumed within a short period and the small plot can be used for next crops composition.

The garden had a problem with neighbours from the very beginning. It started with threatening emails, conversations on internet social media and resulted into an assault two weeks after the official opening. As mentioned above, the gardeners found their own way how to react and move on. They tried to persuade the hostile neighbours with beautification of the adjacent street and other activities for local citizens. Some newspapers wrote about the destroyed garden as an illegal crime and mentioned also police investigation. Nobody knows what worked but since some time this kind of problems hasn't appeared anymore.

The community found a good solution for the toilet. Most of the gardeners need only 5-10 minute walk to get to their homes and in exceptional cases they use the toilet in a bistro across the street, which owners has also a plot in the garden. For bigger events, such as restaurant day, they rent a mobile toilet for one day for approximately 70 euro.



## 6.2 Community Garden Vodárenská

<b>Address:</b>	Devínska cesta 5364/1, Karlova Ves, 841 04 Bratislava
<b>Establishment:</b>	May 2013
<b>Management:</b>	At the beginning "Živica", later the gardening community
<b>Partners:</b>	Bratislava Water company and Waterworks Museum, Centre for Environmental and Ethical Education "Živica", Regional Association for Nature Conservation and Sustainable Development "BROZ", DM drogerie markt, Non profit organisation "TerraVoice",
<b>Site owner:</b>	Bratislava Water Company
<b>Lease agreement:</b>	5 year tenancy agreement without charges
<b>Size:</b>	2100 m <sup>2</sup>
<b>Number of plots:</b>	16

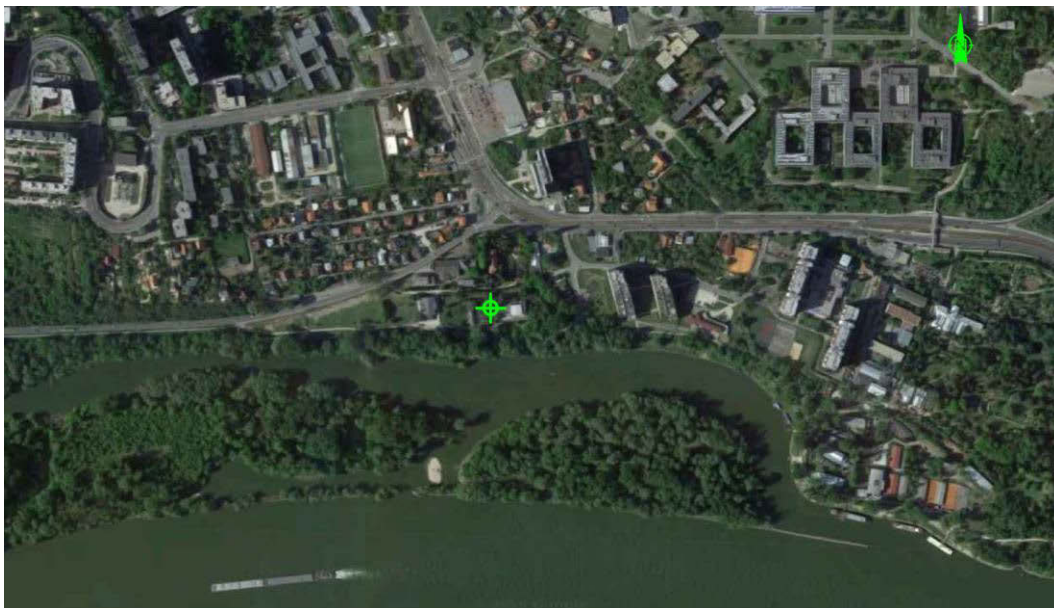


Figure 10: Location of community garden "Vodárenská" and close surrounding (Source: Google Maps, own arrangement, 2016)

## Site analysis

The city borough Karlova Ves has a history of a quiet village surrounded by vineyards and orchards oriented on viticulture. Nowadays 33 thousand inhabitants are here living, the developers are still building new flat houses and the density is rising (Bratislava, 2016).

The community garden is located in the immediate vicinity of Danube, next to the Karloveská bay (Fig.10). The eastern direction is leading to student dormitories and to the Botanical Garden in Bratislava. On the west is Sihot', the largest river island in Bratislava, where the protected water source of the city is situated. To the north is the whole city part Karlova Ves with smaller, older family houses and bigger flat houses.

Community garden Vodárenská is situated on the grounds of Water museum with adjacent Water Park. Owner of the whole site is Bratislava Water company. The official entry into the community garden for wide public is possible only through the neighbouring Waterworks garden that has certain opening hours; high season (1.4. - 31.10.): from 6:00 till 22:00, secondary season (1.11. - 31.3.): from 7:00 till 19:00. The gardening community members can enter their plots any time, using the entrance for employees. They have to pass by a groundkeeper, which watches the whole area equipped with security cameras 24 hours a day. He has a list with the names of gardeners.

The Waterworks garden is a well designed modern park for wide spectrum of users (Fig.11). It was rated as the most beautiful Slovak park in 2015 by the Association for garden design

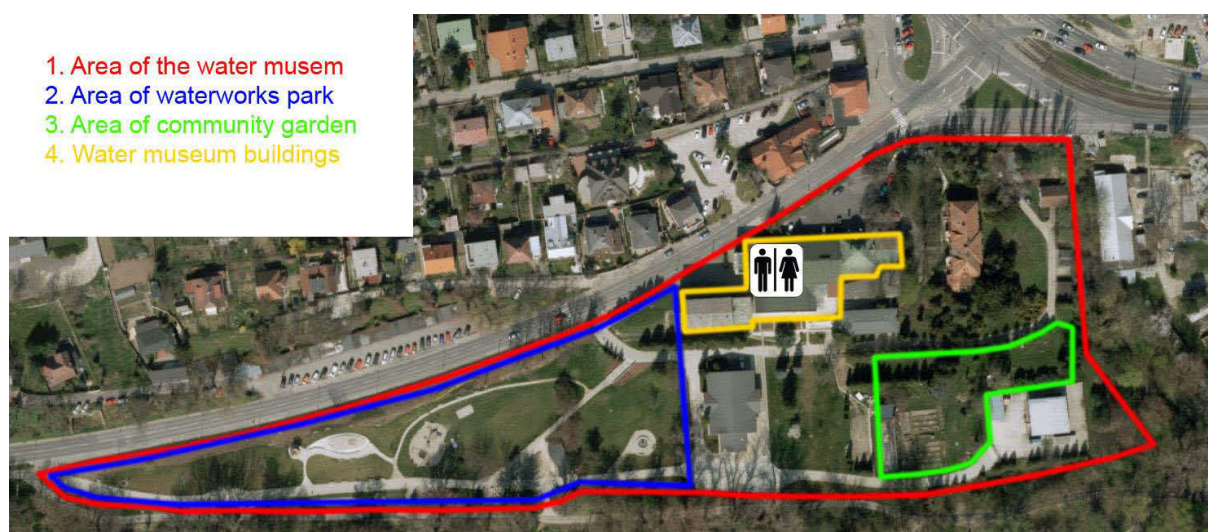


**Figure 11: Well designed Waterworks Garden with playground, fountain and other equipment is considered as one of the most beautiful parks in Slovakia. (Source: Own photos, 2016)**

and landscaping. It is situated next to international bike route, so there is a cyclopoint with bicycle repairing tools in the central part of the garden, next to an harbour. The park is equipped with an observation tower, fountain, water museum showpieces, water points with drinking

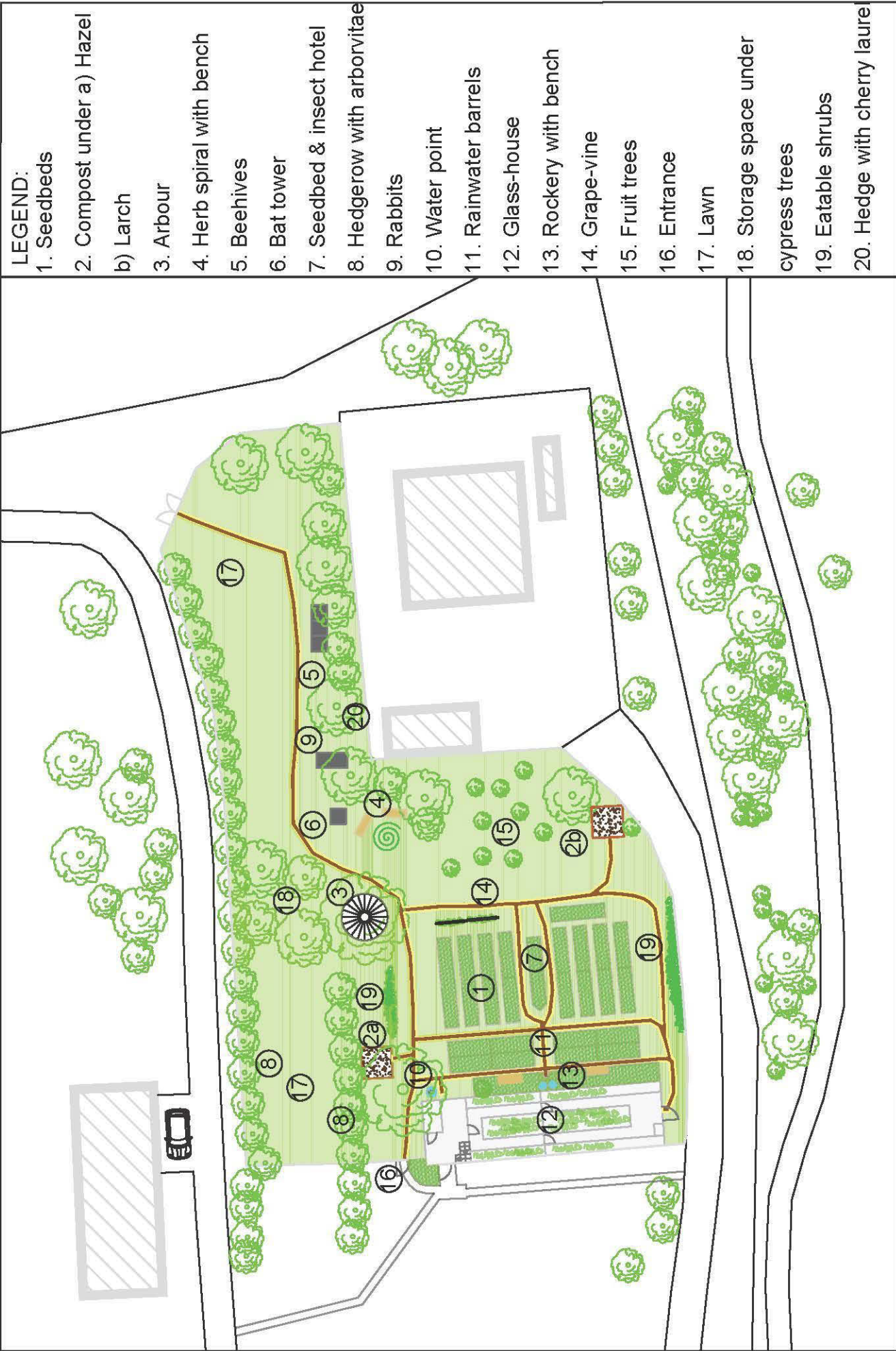
water, comfortable benches, open areas with nice green lawns and two playgrounds - children and multifunctional that is suitable also for senior citizens. In the north-eastern part of the park is an info panel with information about community gardening. Following the path to the east, passing by a statue of a Boy with a heron made by artist Robert Kühmayer, located on a large fountain, the visitor can discover the community garden and read about it on more information panels describing bees in the city and community projects. Next to this info panels on the southern side of the path is a green tunnel braided of willow rods, made by the gardening community as their contribution to the Waterworks Garden.

There is no toilet on the plot allocated for the community garden, but the community can use the toilet in the adjacent water museum (Fig. 12)

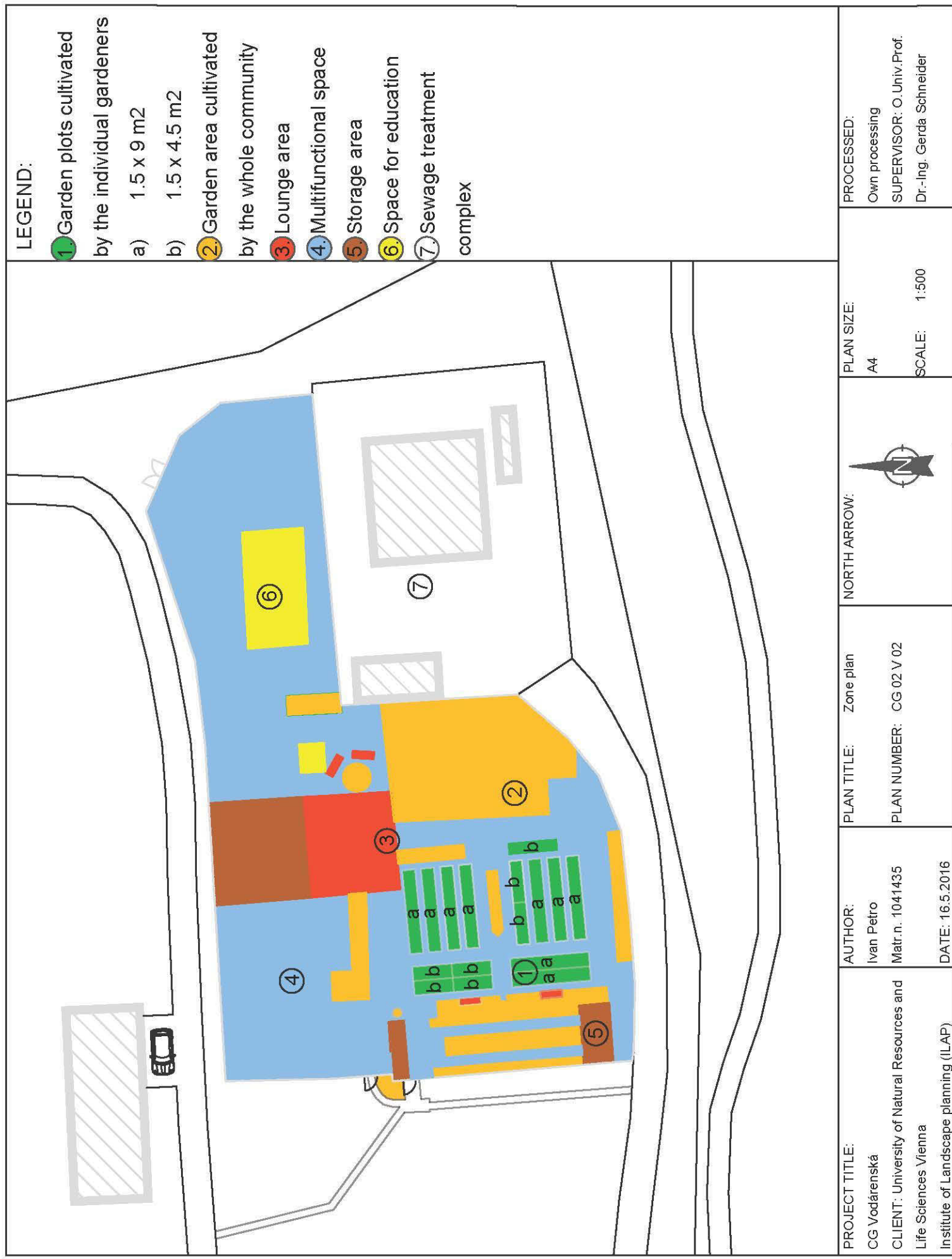


**Figure 12:** The spatial organisation of the water museum complex is framed with red colour. Blue colour marks the area of the waterworks park, the area of community garden is marked with green colour and the buildings of water museum are marked with orange colour. The pictogram is showing the location of toilets. In the upper right corner of the red frame are the houses where the employees of the Bratislava Water Company live. The remaining buildings are used for two different infrastructure systems: the sewage treatment (building in the lower right corner of the red frame) and drinking water pump (building between green and blue frame) (Source: Bratislava-KarlovaVes, 2015).





PROJECT TITLE: CG Vodárenská	AUTHOR: Ivan Petro	PLAN TITLE: Site plan	NORTH ARROW: 	PLAN SIZE: A4	PROCESSED: Own processing
CLIENT: University of Natural Resources and Life Sciences Vienna Institute of Landscape planning (ILAP)	Matr.n. 1041435	PLAN NUMBER: CG 02 V 01		SCALE: 1:500	SUPERVISOR: O.Univ.Prof. Dr.-Ing. Gerda Schneider
DATE: 16.5.2016					



## Spatial organisation

The whole community garden area is fenced with a wire mesh. The visitor can get to the entrance gate following a thin path along the glass house building. A massive wooden gate is next to the entrance into the glass house (Fig. 13). Here, in the middle of a small flower garden stands also a barrel for the collection



**Figure 13: The entrance into the community garden and the glasshouse. (Source: Own photos, 2016)**

of rainwater. The plan with number CG02V01 is showing the detailed spatial organisation in the Community Garden Vodárenská. The entering area of the garden is shaded by a hazel tree (*Corylus avellana*), with a compost box hidden behind and a couple of eatable shrubs such as raspberries and currants. On the north-eastern corner of the glasshouse building the water point with tap water is situated. There are also two barrels here for rainwater collected from the roof of the building. From under the hazel you get a view on the garden. The south-western area with old concrete cultivation beds and some new wooden raised beds serves for gardening. In the centre of the gardening area is a raised bed in a shape of a ship with a massive insect hotel. Just next to the wall of the glass house is a long stripe of rock-garden with two benches and a small fig tree (*Ficus carica*). In the middle of the rockery there are again two barrels for collection of rainwater. The gardening area is separated from a young orchard by a wooden raised bed and a short strip of grape-vine. In the south-eastern part of the area, between a tall larch tree (*Larix decidua*) and an elder (*Sambucus nigra*) is a second box for composting.

Following the direction straight ahead from the entrance door you have to come to a wooden arbour constructed in a circle around an old walnut tree and to a herb spiral with benches. Hidden behind the arbour, under a couple of cypress trees (*Chamaecyparis lawsoniana*) some branches and wooden sticks are stored. Next to the herb spiral is a bat tower erected on the top of a dead walnut trunk. The spiral is surrounded by few trees such as elder (*Sambucus nigra*), arborvitae (*Thuja occidentalis*), wallnuts (*Juglans regia*), larch (*Larix decidua*), Oregon grape (*Mahonia aquifolium*), juniper (*Juniperus virginiana*) and yew (*Taxus baccata*). The north-eastern part has enough of open space on a green meadow. There are some beehives and a rabbit hutch situated here. In the north-western part of the garden is a small meadow separated from the rest of the garden by a few Arborvitae trees.



The northern border of the garden is created by an arborvitae hedgerow. The southern border consists of eatable hedgerow with raspberries, blackberries and currants. The south-eastern border of the garden consists of a steep hill with a wire mesh and a hedge composed by cherry laurel (*Prunus laurocerasus*), larch (*Larix decidua*) and small junipers (*Juniperus virginiana*). The sewage treatment complex is behind the fence.

## Zone plan description

The spatial structure of this garden is relatively complex (plan number CG 02 V 02). The zone analysis showed that gardening area can be divided into two sections. One is the southern part that consists of the plots cultivated by individual gardeners concentrated in one central area that is encircled by the gardening area maintained by the whole community together with the lounge zone. Second is the northern part with a lot of multifunctional space and some education and storage zones. The multifunctional space in the northern part consists of green lawns and meadows. In the southern part there are more paths and some watering infrastructure. The individual gardening with 150m<sup>2</sup> of covered space is possible on two official plot sizes: a) 1.5 x 9 m<sup>2</sup> and b) 1.5 x 4,5 m<sup>2</sup>.

## Gardening production

Most of the gardeners are environmental enthusiasts and beginners in the field of horticultural production. So you can find lot of individual experiments on their small plots. Very popular among the community are such practices as seed harvesting, unusual or ancient vegetables, natural plants symbiosis or biological, homemade pesticides. The permacultural design and principles are essential for most of the community members. Very successful is the harvest of tomatoes, garlic and cucumbers. Spinach and salads (Fig. 14) are also very popular although there are problems with snails. The community discussed the implementation of ducks into the garden, but the land owner (Bratislava Water Company) didn't agree. The fresh herbs and flowers grow in herb spiral and rock-garden.



**Figure 14: The motivated gardeners are watering the seedlings of salads, spinach and peas growing in the beds in spring (Source: Own photos, 2016).**

Pali has tomatoes, aubergine, cucumbers, chard (*Beta vulgaris*), kitchen herbs but he experimented also with fenugreek (*Trigonella foenum-graecum*) and other plants.

"I plant mostly classical garden vegetables, such as salads, spinach, tomatoes, garlic or paprika. However I have also my own small experiments with seeds and last year I planted tobacco in the glasshouse and outside on my plot as well. Now I am fermenting and drying the

leaves, so we will see how it's working." described Slavo his gardening efforts in 2016.



**Figure 15: The glasshouse has a big potential. Now it is used as a storage room and for gardening. (Source: Own photos, 2016)**

As mentioned above, there are also animals in this garden. The bees managed by Živica in cooperation with professional beekeeper more or less for educational purposes can produce a glass of honey. The rabbits started as a solo project of one gardener, but with the time more persons got involved.

The glasshouse is used for communal production of watermelons managed by one gardener Luboš and for private gardening as well. However, according to the most community members its full potential isn't really used (Fig.15). Luboš is also the initiator and creator of the rabbit hutch. He breeds there rabbits for meat, there were 6 rabbits in autumn 2016, but one cage served also as an asylum home for an ornamental bunny from a flat (Fig. 16).

## **Social organisation**

The composition of the community changed quite a lot during the garden existence but some of the people are the same since the very beginning till today.

"The fluctuation in our garden is high. People are leaving for different reasons, but there are always plenty of successors." said Pali, the actual garden leader.



Productive people between 30-40 years are forming the strongest element among the gardeners, there are just few families with little kids and some people between 40-70. The director of Water museum is gardening on two seedbeds too. The distances between home and garden are varying. Some have it 5 minutes on foot, others live in other city part and have to travel 30 minutes by public transport.



**Figure 16: Kids are tireless admirers of bunnies in the rabbit hutch. (Source: Vodárenskážárada, 2015)**

The community determined internal rules in articles of association at the beginning of gardening season in 2014. There is a leading personality, who is also respected by the community. At the beginning all the organisation and management was done by just one community member, but in spring 2016 she resigned from this post and her tasks - coordination of garden labour, finance, organisation and communication - were taken over by three different persons. Both of these models have their advantages and disadvantages. A gardener, Slavo described it very clearly:

"For me it's sometimes hard to accept the decisions made by the community. It is a big challenge, the communication in such a complex group of people. A motivated personality can create a dynamic environment, but in the same time the rest of the community become less active."

So the actual model divided the duties in the garden between the community members. There is still a leading person, that has bigger responsibility but other persons are engaged in complementary functions like the treasurer, one person has to do all the mowing, someone is responsible for the composting and so on. The group of people gardening in Vodárenská demonstrates a good internal organisation since the beginning of its existence. This fact helps to deal with conflicts.

## **Financial organisation**

The mentor of the whole community garden "Vodárenská" was Centre for Environmental and Ethical Education "Živica" with the project "Untrodden path" at the beginning. The gardening community and the NGO have a close relationship and the cooperation continues also after

the end of the project in many aspects. Živica performs an environmental education for children in the garden focused on bees in the city (Fig. 17).

The community determined gardening fees. For one year its 10 € per person + 10 € per b) size seedbed (6, 75 m<sup>2</sup>) and 20 € per a) size seedbed (13,5 m<sup>2</sup>) , so the gardeners can collect all together approximately 450 € per one year.

The Water museum has a director that is well disposed towards the idea of community gardening since the beginning. The good relationship with Water museum and Bratislava Water Company is crucial for the existence of the garden. There are also some benefits resulting from this connection - tenancy agreement without fees, electricity and water in the garden is also for free (but the ecological and permaculture philosophy inspired the gardeners to collect and primarily use rainwater).

The community is cooperates with many other organisations:

Regional Association for Nature Conservation and Sustainable Development BROZ, where are some of the garden members employed provided office space for the permaculture workshop. DM drogerie markt is offers seasonal corporate volunteers for diverse activities in the garden. TerraVoice took over the official garden management after the end of Živicas project. Permakultura SK - Slovak permaculture community is helpful with volunteering.



**Figure 17: There are many events and workshops organized for wide public in the garden. One of them was a thematic day about the importance of bees and other insects in our life within the project "Bees in the city".**

**(Source: Vodárenská záhrada, 2015)**

## Concept and History

In the past the area of the community garden was planted by cheery trees and it served as an orchard as a visitor and a former employee of the Bratislava Water Company once mentioned. The fruit trees were later replaced by arborvitae trees and seedbeds were built. Those were used for gardening by the employees of Bratislava Water Company. The

glasshouse, which was built in the 50ties, served for flower production for the city. However in the last two decades were both, the garden and the glasshouse abandoned and became desolate. A group of local enthusiasts together with a couple of employees from the Regional Association for Nature Conservation and Sustainable Development "BROZ" that has its headquarters situated just 5 minutes walk from the garden discovered this piece of land. At the beginning, in spring 2013, they cultivated the seedbeds thanks to an oral agreement with the Water museum. It took just couple of months and in cooperation with the Centre for Environmental and Ethical Education "Živica" the official lease contract with the Bratislava Water Company was signed in summer 2013. The agreement is concluded for an unlimited period with three months notice period. All the financial charges were covered by NGO Živica within a project called "Untrodden path" since the very beginning till February 2015.

The revitalisation process, based on the permaculture principles, started in spring 2013. Most of the community members had only little experience but a lot of enthusiasm for ecological solutions and garden ecosystem. Unfortunately, in June 2013 an unexpected event occurred, a massive flood destroyed the whole labour, but most of the community gardeners didn't let themselves be swayed.

"We took it as a challenge, used the alluvial mud as a quality substrate and in a month (after the disaster) we gathered the first harvest," explained her attitude an active gardener Michaela.

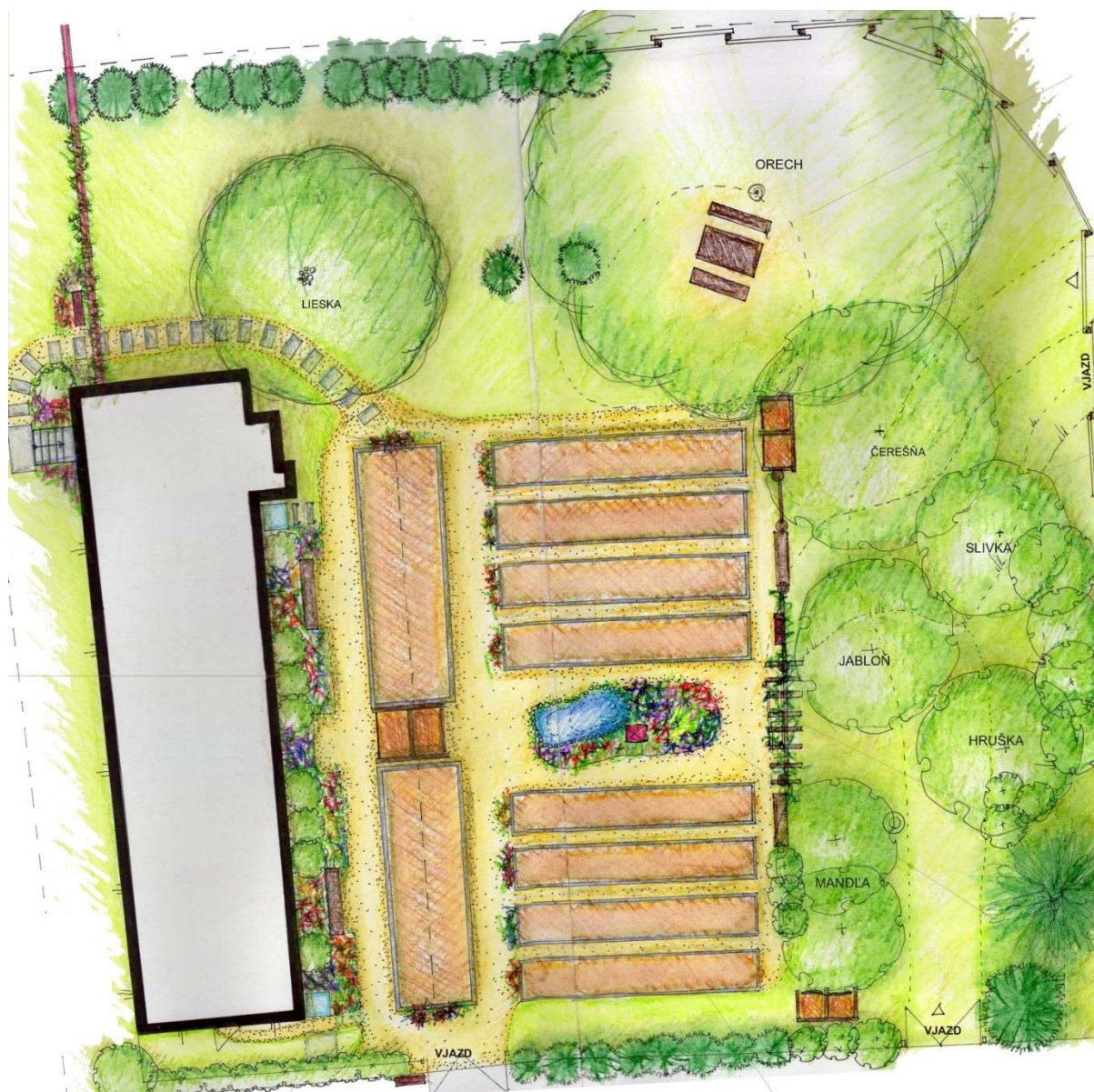
The starting point for the second gardening season was a weekend permaculture course led by an experienced permaculture designer Patrícia Černáková in February 2014. Patrícia draw also the master plan with a set of proposals for the garden plot (Fig.18).

That year were made lot of changes in the garden. Some of the old poisonous arborvitae trees were cut down and new fruit trees were planted on the meadow. The branches from the arborvitae trees were chopped into wood chips and used as a pavement for the paths in the garden.

The wooden arbour around the walnut tree as well as the wooden gate were built by a hired professional carpenter (Fig. 19). The flood water was pumped out of the glasshouse and the building was reconstructed - some of the glasses were changed, the gutters with the mouth into water barrels for rainwater collection were installed. A couple of new seedbeds were built, one of them in the shape of a ship with a massive insect hotel. NGO Živica involved into the garden design also bee hives within a project "Bees in the city" (Fig. 17). In 2014 the



adjacent park "Waterworks garden" was reconstructed and Živica integrated also information panels for public about community gardens and bees into the park design.



**Figure 18: Master plan drawn by permaculture designer Patrícia Černáková for community garden Vodárenská in February 2014 (Source: Černáková, 2014)**

The Živica's project "Untrodden path" finished in February 2015 and the whole garden management was taken over by the local community. Fortunately all the tools and expensive reconstructions were purchased within the grant and the basic garden maintenance was possible also from the gardening fees paid by gardeners. In spring 2015 the bat tower was raised on a dead walnut trunk and one member of the community built a small warren and started breeding rabbits.

**Figure 19: The wooden arbour under a walnut tree serves as a perfect place for grilling, meeting or just relaxing. A herb spiral is situated nearby. (Source: Own photos, 2016)**



## Activities

Vodárenská is a very dynamic and open project with different activities for wide public. It is situated on the private ground, closed for public, but curious visitors from the Waterworks garden are coming there from time to time. The community is very communicative and there is always a possibility to arrange a meeting or presentation of the garden.

The Permaculture workshop in spring 2014 with professional designer was organized mainly as a starting point for the garden but there was also an internet invitation for people who aren't involved in the community gardening. This same model was used also by the workshop about tree planting and pruning in autumn 2014.

The gardeners decided to raise some funds with their cooking skills and joined three or four times the global Restaurant day in years 2014-2015. They presented their products in the community garden and in the Waterworks garden too.

Vodárenská is a partner of the Festival "Permaculture in the city" that takes part in the Water museum every autumn. There is always a tour through the garden during this festival.

Živica makes regular presentations about community gardening and bees in the city for children. Gardener Michaela is doing also presentations about gardening for preschool kids (Fig. 20). Živica initiated the invitation of the employees from the drug store DM Drogerie Markt to help with the garden work as volunteers. Now they are coming approximately two times a year.





**Figure 20: The community in Vodárenská creates events for kids in cooperation with the organisation Živica. (Source: Vodárenská záhrada, 2015)**

## Interpretation

The permaculture philosophy and design together with the support of ecosystem by beehives or bat tower for instance creates on the imaginary level a clear vision in the structuralist landscape planning assessment. The experiments in polyculture based on companion crops planting are one of the biggest challenges for the gardeners in Vodárenská. They love rediscovering the old varieties of vegetables and fruits and search for new useful sorts as well. Permaculture seems to go hand in hand with the environmental education that is also a part of the garden image.

The protection and cooperation offered from the Bratislava Water Company has a lot of advantages but also some disadvantages. The community needs permission for every bigger action performed in the garden. For instance there was an idea with a mobile field kitchen and organisation of healthy cooking workshops in the garden. The director of Water museum wasn't pleased that a large number of unknown people could come there and he didn't agree. Another problem are dogs in the garden. It is forbidden to bring dogs to the areas of Bratislava Water Company. The gardeners asked for a special permission to spend weekends in the garden in the company of their allied animals that would be on a leash, but the director closed the discussion at the very beginning with an argument that it has been

forbidden for decades till today and so it remains. On the other hand, the director is very helpful and cooperative in other issues, such as broken water pipes or defective electricity.

Some gardeners noticed that the sewage treatment complex situated in close proximity of the garden in south-eastern direction can be considered as little bit noisy and stinky when it's working.

The whole area of the community garden is still offering different empty spaces for multiple uses. There is a wide lawn around beehives for instance, or a small space behind the first compost in the north-western part of the garden. New seedbeds for interested potential newcomers could rise as well as additional communal gardening zones such as Hokkaido pumpkin patch for instance. For such a modification there would be necessary to remove the arborvitae hedgerow next to hazel tree, as shown on the master plan (Fig. 18). Vodárenská is the only case study that has a master plan made by professional designer. Although the realisation is little bit different such a drawing can make the concept and perspective of the community garden much clearer.

The glasshouse offers a lot of opportunities. Some community members proposed to reconstruct and use it as a space for workshops and courses and raise some funds with these activities. Others want to do only glasshouse gardening there. There was also discussion about production of micro-green for vegan restaurants. All this ideas have only been discussed. The glasshouse serves nowadays as a storage room and for gardening, very popular are melons.



## 6.3 Community Vineyard Pionierska

**Address:** Crossing of Pionierska and Kyjevská street, Nové mesto, 831 02 Bratislava

**Establishment:** April 2015

**Management:** Vnútroblok and the gardening community

**Partners:** Vnútroblok, City of Bratislava with project Adopt Your Green (Adoptuj si zeleň),

**Site owner:** City of Bratislava, Administrator is the city district Nové Mesto

**Lease agreement:** 3- year cooperation agreement till 2017

**Size:** 3000 m<sup>2</sup>

**Number of plots:** 84 raised beds + vineyards

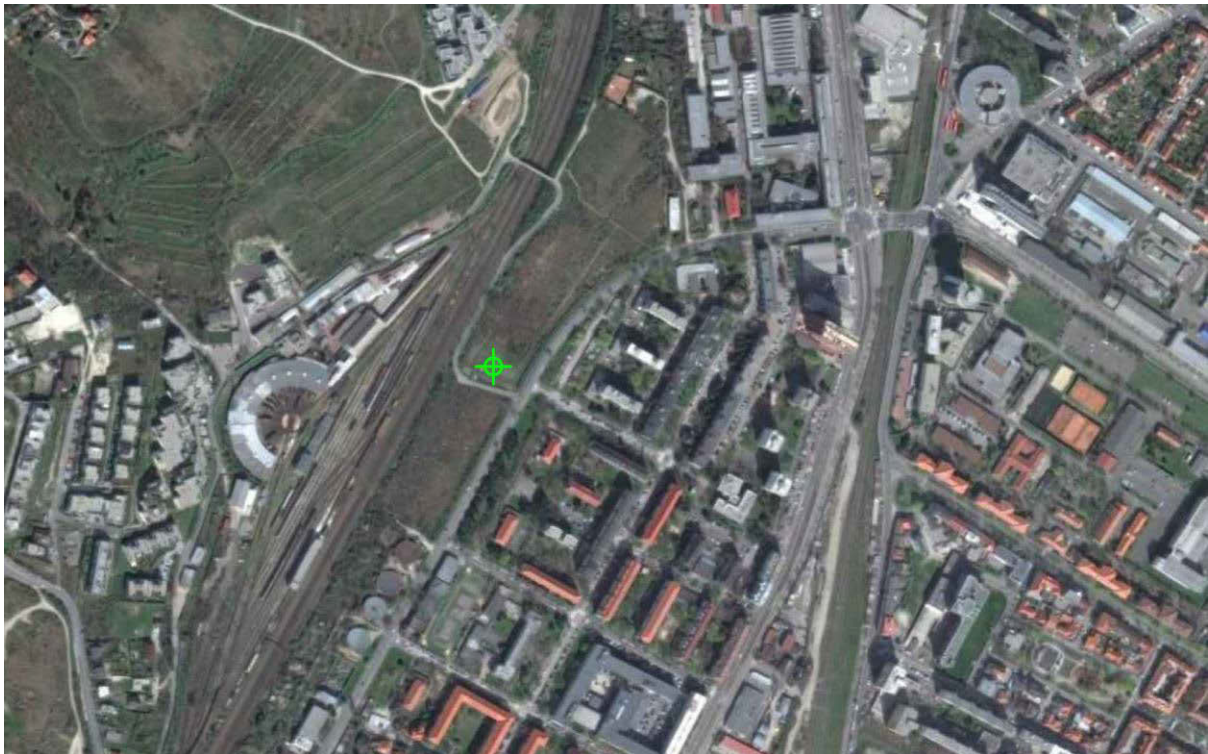


Figure 21: Location of the community vineyard "Pionierska" and close surrounding (Source: Google Maps, own arrangement, 2016)

## Site analysis

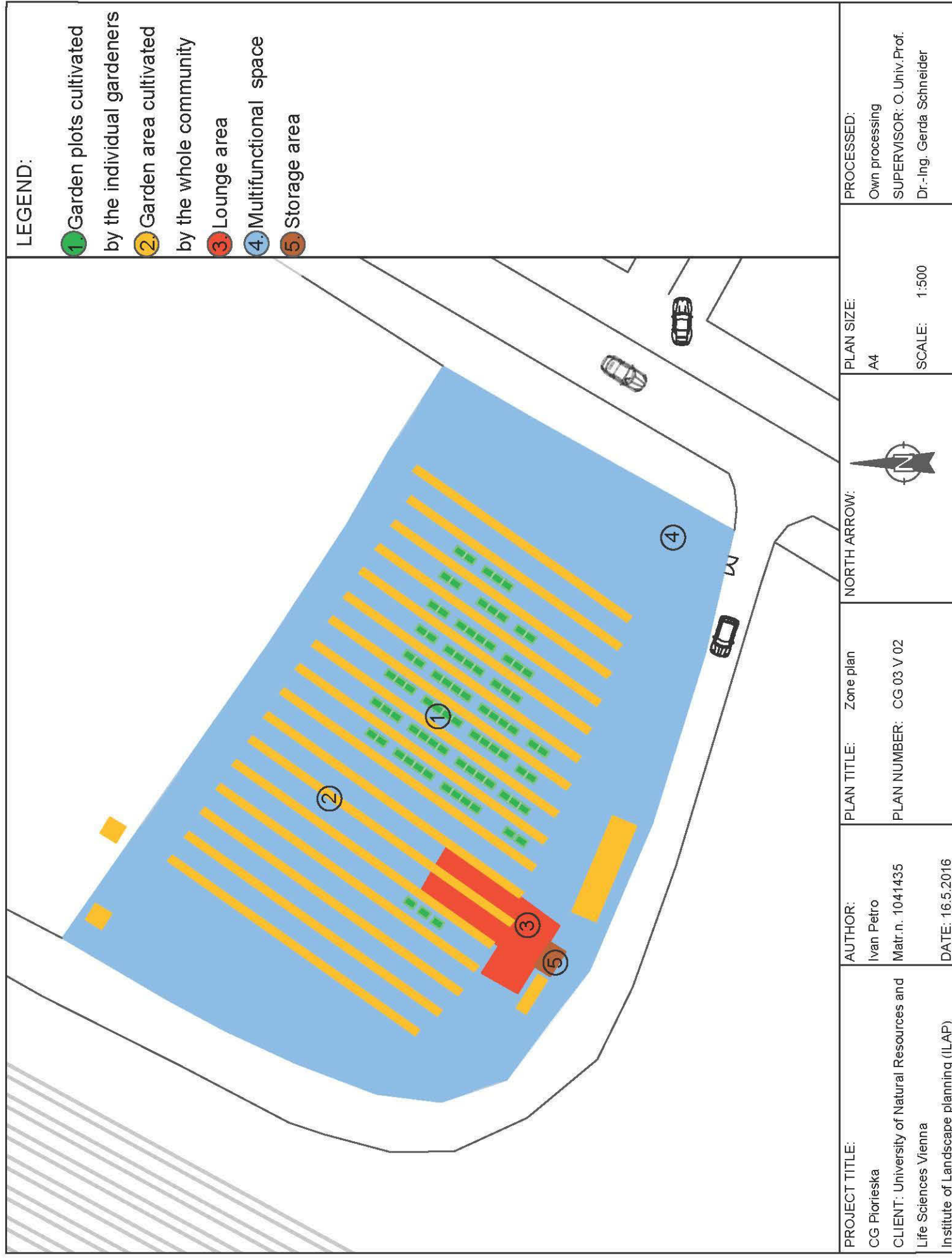
Bratislava - Nové Mesto has 43 600 inhabitants. The north-western area of the city district is occupied by the Small Carpathians mountain range. Community Vineyard Pionierska is located between the railway and a quite frequented road on Pionierska Street on the edge of the settlement Februárka. The settlement was finished in 1961 and it is one of the oldest of its kind in Slovakia (Register, 2017). Its loose structure with green courtyards is just highlighted by later projects and additions standing next to it. The north-eastern direction is leading along old, abandoned vineyards to a small industrial complex with Welding Research Institute. The western surrounding of the community garden is occupied by the main complex of Bratislava Railroad Company and family houses behind it (Fig. 21). On the north-west, behind the railway there are vineyards which have been subsequently transformed into Bratislava City Forests. The first visual evidence of vine cultivation in this area is from the first military survey of Habsburg Empire in 1764-1784 (Fig. 22).



**Figure 22: Bratislava as Presburg on the historical map from the first military survey of Habsburg Empire in 1764-1784. (Staatsarchiv, 2014)**









## Spatial Organisation

The main entrance into the garden is situated in the southern corner as it is displayed on the plan with numbed CG 03 V 01. It leads through a wall created by a combination of an old wire fence, shrubs (*Clematis vitalba*, *Rubus fruticosus*, *Rosa canina*), few scattered trees (*Juglans regia*, *Ailanthus altissima*) and some old living and dead vine trunks. This barrier is encircling the whole area. There is a gate with an information panel about the community garden. It says that it is a public space open for everyone but the visitors should respect the privacy of the wooden growing boxes.

After entering the open gate one has to decide which of two paths he takes. The wider corridor along Pionierska Street is used mainly by dog walkers and leads further beyond the community garden into wild, dilapidated vineyards. The



**Figure 23: The place in front of the tool shed is equipped for grilling and relaxing. There are wooden tables and benches made out of pallets and a fireplace. (Source: own photos, 2016)**

second, narrower path used regularly by the gardeners leads to

north-western part of the community vineyard along Kyjevská street to the main social space. Taking this way the visitor passes rows of vineyards and raised beds following one after another on the right site. On the left side of the path there are two fruit trees planted.

There are seventeen rows of vineyards with the length of approximately twenty five meters each. 84 wooden boxes used as raised beds for vegetable growing are situated in the 3 meter wide gaps between the rows. The boxes are 120 cm wide, 80 cm long and 50 cm high. There is a solitaire black pine (*Pinus nigra*) in the middle of the vineyard.

In the second third of the path a tin tool shed is situated with a small roof and a walnut tree (*Juglans regia*) growing next to the south-eastern wall. Behind the building there are three water reservoirs with hundred litre capacity each. The space in front of the storage barn is equipped with benches, tables and a fire pit (Fig. 23).

The vineyard is bordered with a small forest composed mainly by trees of heaven (*Ailanthus altissima*) on the north-east. In this invasive jungle the compost pit is situated. A dry toilet is placed in the northern corner of the community vineyard. The second entrance, a simple hole in the fence, is in the western corner behind the water containers.

## **Zone plan description**

There is only one size of the available gardening plot - the mobile box 120/80/50 cm<sup>3</sup>. The raised beds are distributed in lines between the vineyards and this is visible also on the zone plan numbered CG 03 V 02. The individual gardening that covers 81 m<sup>2</sup> is mixed with the gardening area cultivated by the whole community. The vineyards are used also for vegetable production by some community members but I decided to put it into the zone of joint gardening because there isn't any system and organisation yet and it is used by the community as a whole. So the lines of individual gardening are situated almost in the centre of the plot, little bit tilted to the south eastern direction. The areas cultivated by the whole community are spread through the whole area with two marginal spots. The lounge area together with small storage space is situated on the edge of private gardening zone. The remaining area is covered by multifunctional space consisting mainly of wild meadows.

## **Garden Production**

Most of the gardeners in the community vineyard don't possess any knowledge about viticulture, but some of them got really motivated by this project. Matúš, a passionate gardener and perspective winemaker is one of them:

"I have two boxes for gardening. We use them mostly for kitchen herbs, such as basil or coriander, spinach and some tomatoes. I take care also for one vineyard row because I am interested in winemaking. We made even our own wine with a friend in my flat. This year we needed to buy the grapes, but in the future it's possible that we will produce wine out of the community vineyard."

The raised beds are quite small, so kitchen herbs, cherry tomatoes and salads became very popular among the community members, but motivated gardeners plant pumpkins, kohlrabi and tomatoes even between the vines (Fig. 24). Hence an interesting mixture of plants can be experienced in some of the vineyard rows.





**Figure 24: The crops composition in a vineyard row mixed with vine. The closest is salvia, than there are some hokkaido pumpkins followed by a mixture of kohlrabi and salads. Further in the back there are tomatoes (Source: own photos, 2016).**

A fresh newcomer, who hasn't got any box for gardening yet is Ján. He would like to make it more colourful and plant more flowers in the vineyard. Alex prefers to grow tomatoes and pumpkins in his raised bed. Ingrid is very proud on her harvest of giant beefsteak tomatoes. This tomatoes variety is in Slovakia known as vineyard tomato. Furthermore she cultivates also zucchini, pumpkins, salads and kitchen herbs.

Laura spends a lot of time in the vineyard, so she decided to accept the position of organiser and leader: "The space for gardening doesn't have the capacity for some huge harvest, so the community is quite important here. However, I like my small garden, where I grow beetroot, tomatoes, celery, chard, chive and zucchini."

For Ingrid her gardening efforts are a kind of therapy. "The connection to the ground and plants is important for my mental health." She says. She plants kitchen herbs, pumpkins and she is very happy from the harvest of so called vineyard tomatoes.

## Social Organisation

The whole project was managed by Vnútroblok at the beginning. The organisation declared a call for gardeners on their internet web page as well as on facebook and on the fundraising platform Good country. Then they evaluated all received applications with a key - the closer, the better - that means the applicant who lives closer to the community vineyard, has a higher chance to get a box for gardening.

There has been a new organisation since summer 2016. The gardening community have created internal rules and functions. They have chosen a leader responsible for the communication and management.

The social factor is important for most of the community members. Matúš who lives in a blockhouse just 5 minutes walk from the garden expressed his motivation:

"I am from countryside and I never liked to work manually in the garden during my childhood. But now, here in the city, I am missing it somehow...For me it's a -back to the roots- activity. I want to do something with my own hands, meet friends and drink a beer during hot summer days in this cooled green vineyard."

Ingrid who also lives in an apartment in the close surrounding has similar ideology:

"For me the garden is something essential. I always dreamed to have a small plot close to my home and finally it fulfilled. The community vineyard Pionierska is only five-minute walk for me. I need the connection with the nature, it connects me with myself."

Some gardeners have more than one, there are two persons who have four boxes, four persons with three boxes, sixteen persons with two boxes and the remaining thirty two boxes are managed by thirty two other gardeners. There are at least two active community members without any gardening box, but they are taking part in the communal gardening, vineyard cultivation and other activities.

## Financial Organisation

Even before the first brigade Vnútroblok collected through different fundraising projects all together 4000 € (Vnutroblok, 2015). This includes addressing of private sponsors, beneficial concerts and use of the crowdfunding platform managed by Foundation Pontis - Great Country (Dobrá Krajina). With this support the gardening community financed the new roots of vine, tools for the vineyard and gardening, soil, manure and material for growing boxes. This money was very helpful also because of the wine robbery in spring.

Second important financial support were 4150 € from the participative budgeting of Bratislava Nové mesto. The municipality regularly supplies the three water reservoirs.

Taxpayers in Slovakia can donate 2% of their paid taxes to non-profit organisations. Vnútroblok collected 930 € for their mobile gardens in 2015 and 2000 € in 2016.



**Figure 25: Official opening of the community vineyard Pionierska on 18.April. The community members and volunteers are constructing the wooden boxes for gardening in the background and in the left corner of the picture are some people planting new vines (Source: Štasselová, 2015).**

One part of the budgeting are also the gardening fees - First growing box (120x80 cm) is for free and each additional costs 15€ / year. The gardeners and supporters can voluntarily contribute also with a higher amount.

## Concept and History

The first mobile garden in the old town of Bratislava on Sasinkova street was started by the organisation Vnútroblok in 2013. A group of motivated people created a project "Diery" (holes) and mapped unused spaces in the dense old town of Bratislava. They found many unused spaces on private property, but most of the landowners were just waiting for the building permission and hesitated to cooperate on gardening projects. Finally they got a temporary lease agreement with 30 days move out notice in case of sale on a plot next to Sasinkova Street. They started with 56 mobile boxes for gardening, which were used by 30 people.



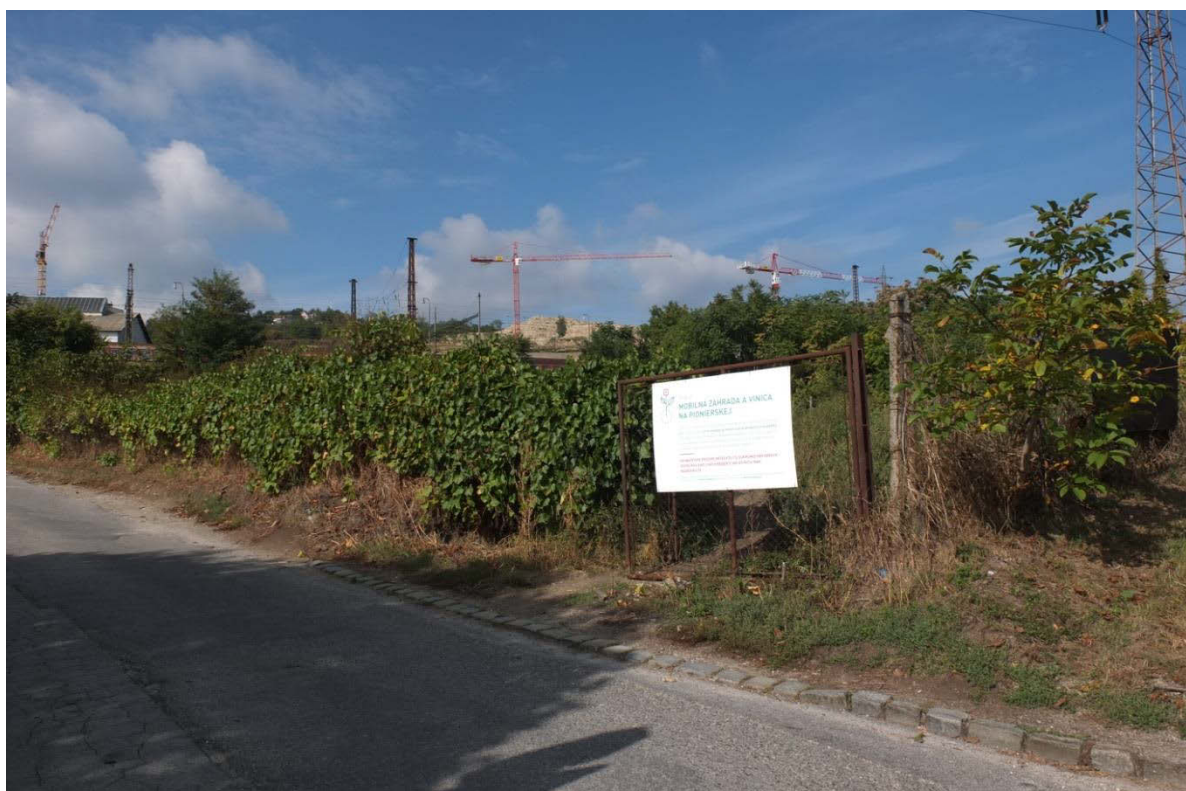
The popularity of community gardens in the city was growing hand to hand with the media attention. More and more people were becoming interested in gardening and Vnútroblok was looking for further possibilities before the gardening season in 2015. Essential was the help of the mayor in the city part Nové Mesto. He accepted their request for the unused, dilapidated land reserves, intended for expansion of the street Pionierska next to the railway (Fig. 26) . The area falls within the railway protection zone, which is 60 meter from the marginal rail (Štassel, 2016).



**Figure 26: The garden is situated between a road and a railway. View of the mobile wooden boxes between vineyards and the railway in the background. (Source: Vnútroblok, 2015)**

The organisation and crowdfunding started with the beginning of the year 2015. Vnútroblok filed a request for the use of the vineyard on the municipality. The city started with an initiative Adopt Your Green (Adoptuj si zeleň) and the project of community vineyard just fitted into the framework of this platform. Adopt Your Green is focused on the decorative vegetation but the city agreed with the revitalisation of uncouth vineyard and gardening activities in the mobile growing boxes and they signed a cooperation agreement till 2017 with Vnútroblok. The next step was the fundraising and crowdfunding. The project got support from the participatory budgeting in the city part Nové Mesto and Vnútroblok organised a beneficial party with art auction and concert in March 2015.

The official opening of the first gardening season with planting of young grapevines was on 18. April 2015 (Fig. 25). More than one hundred people were involved in the revitalisation of the old vineyard, which proved to be much more complicated as it looked in the beginning. The consultation with a professional winemaker showed that the whole vineyard needed to be completely rebuilt. A huge labour was invested also into the cleaning and grubbing of this abandoned piece of land at the beginning. It was full of diverse garbage and completely overgrown with the invasive tree of heaven (*Ailanthus altissima*) and other pioneer species such as blackberries and dog roses (Štasselová, 2016). The construction of necessary gardening boxes took place in the following brigades every weekend.



**Figure 27: The entrance gate is open all the time but there is a sign warning the visitors that they should respect the privacy of the growing boxes and not interfere. (Source: own photos, 2016)**

The beginning was very enthusiastic, but unfortunately in couple of weeks the freshly seeded roots of the wine were stolen. They weren't rooted so it was still possible to sell them. The community has suffered a big loss, but they got through it and continued their activities in the vineyard. The gardeners decided to make a symbolic fence, so it will be obvious that the land plot is used. They didn't want to close it completely because it is a public space and so it should be open for everyone (Fig. 27). During the intensive season they built sixty gardening boxes, a small tin tool shed, organized lots of brigades and picnics

and produced also some vegetables, mostly salads, herbs, pumpkins and tomatoes. In autumn 2015 they decided to try it again with the grapevine and planted some hundreds of new roots into the ground. Everything was going well. There was a new draft pick of gardeners for the next gardening season 2016. Suddenly in April 2016 another theft occurred. All the grapevine roots were stolen together with some other plants, such as black currants. This time the young wines were already rooted and it wasn't possible to sell them further so the thief was either stupid or wanted just to destroy the effects of unusual activities performed in this long unused space. However, the gardeners didn't let themselves feel discouraged and they finished the gardening season without any other bigger incidents. Since autumn 2016 they have been working on a new community organisation structure for following seasons.

## **Activities**

In the beginning of the first gardening season a viticulture workshop with professional winemaker took place in the community vineyard. The event was open for wide public. The winemaker explained the basics of grapevine maintenance and suggested the planting system for the site. Later at the end of summer the winemaker organised also the grape harvesting in abandoned vineyards around Bratislava and invited the community from Pionierska to take part in it. They also made some wine out of the harvest.

The neighbouring plots of the community vineyard are old devastated vineyards and gardens. The gardening community in cooperation with other civic organisation Green Patrol (Zelená hliadka) organized the cleaning of this space. They found lot of garbage hidden in the ailanthus and blackberries jungle.

The gardeners have organized a lot of grill parties and picnics in the vineyard and because it is a public space, all of the events are open for public as well.

## **Interpretation**

The Community Vineyard Pionierska developed its concept of traditional use of the ground where it is situated. As obvious from the labelling, it is primarily intended to be a vineyard with the gardening as an additional activity. The wine production in Pionierska is nowadays a perspective of the future because the first grape harvest is expected in third to fourth year after planting. However, the interest and motivation of community members, supported by the viticulture workshop is keeping the original idea alive.



The biggest problems for the whole project till today were the two big robberies of grapevine roots. Also other things were stolen such as wheelbarrow, gardening tools, strawberries seedlings and small shrubs of rosemary and black currants. Hundreds of grapevine roots worth more than thousand euros are really a big loss of money and invested labour. Vnútroblok contacted police, but they weren't very active in this case. Surroundings of abandoned vineyards and gardens are often occupied by homeless people. Some of them are coming to the garden and picking the crops. The community is still looking for solutions. One of the discussed possibilities is to hire a guard, possibly someone who lives in the neighbouring gardens. The whole area of community vineyard is classified as a public space, so a closed fence is out of question for most of the community members. They want to stay open for the wide public as much as possible.

There are many smaller tasks to do in the developing garden. One of them is to find a solution for watering the vineyard. A water source is missing on the plot. For a well a building permission would be necessary, so the gardeners want to collect rainwater on their tin tool shed for the beginning. Another actual problem is to find enough volunteers among the gardeners for mowing the grass. There is a lot of space between the vineyards and beside paths but no electricity, so all the mowing is done manually with scythes.

Invasive plants, mostly trees of heaven are a big issue in the garden (Fig. 28).

The gardeners cleaned the rented area from all trees and shrubs at the beginning but there is a small forest on the north-eastern border from which new seedlings are spreading around all the time. Officially it's possible to cut down all invasive species in Slovakia, but the community want to have good relationship with the neighbours from surrounding flats, who were complaining about "devastation of nature".



**Figure 28: The forest of invasive trees of heaven (*Ailanthus altissima*) behind the border of community vineyard in the northern corner. (Source: own photos, 2016)**

## 6.4 Mobile Garden Karpatská

**Address:** Karpatská 3092/1, Staré mesto, 811 05 Bratislava

**Establishment:** 2015, First gardening season in 2016

**Management:** Headmaster of the special school, the gardening community and Vnútroblok

**Partners:** Vnútroblok, Special Primary School Karpatská, Friends of Earth (Priatel'ia Zeme – SPZ)

**Site owner:** Slovak Republic; Administrator is Special Primary School with Kindergarten Karpatská

**Lease agreement:** 1- year cooperation agreement without fees except water (drinkable)

**Size:** garden area has 400 m<sup>2</sup>, but the whole courtyard has 1500m<sup>2</sup>

**Number of plots:** 50 boxes for gardening, 40 gardening groups



Figure 29: Location of the community garden "Karpatská" and close surrounding (Source: Google Maps, own arrangement, 2016)



## Site analysis

The smallest from the case studies, Mobile garden Karpatská, is located in the Staré Mesto borough just five-minute walk from the main railway station (Fig. 29). The closest surrounding area is special because of the architecture. Just behind the wall of the courtyard there is a group of ten smaller apartment buildings that were built in 1902 (Ivančíková, 2015). Despite the fact that the garden is located in the centre of the town the school courtyard with a view of the old fashioned brick houses gives the impression of a quiet and cosy place (Fig. 30). The area of the old city lies on the south. The northern direction leads to the location Koliba situated on the foothills of Little Carpathians. There are the remains of vineyards and a lucrative residential area with villas.



**Figure 30: Official opening of the mobile garden Karpatská on 6. May 2016. In the background there are old brick flat houses. (Source: Šakový, 2016)**








LEGEND:

- 1. Garden plots cultivated by the individual gardeners
- 2. Garden area cultivated by the whole community
- 3. Lounge area
- 4. Multifunctional space
- 5. Storage area
- 6. Building of the school
- 7. Space for children (the schoolyard area)

PROJECT TITLE: CG Karpatská CLIENT: University of Natural Resources and Life Sciences Vienna Institute of Landscape planning (ILAP)	AUTHOR: Ivan Petro Matr.n. 1041435 DATE: 16.5.2016	PLAN TITLE: Zone plan  PLAN NUMBER: CG 04 V 02	NORTH ARROW: 	PLAN SIZE: A4  SCALE: 1:500	PROCESSED: Own processing SUPERVISOR: O.Univ.Prof. Dr.-Ing. Gerda Schneider
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## Spatial Organisation

Entering the garden from Karpatská Street on the south-eastern side one has to pass by a children playground that covers almost one third of the courtyard area as is it illustrated on the site plan CG 04 V 01. The playground is separated by a wire fence and equipped with a swing, sandbox, slide and other stuff for playing. There are two maple trees (*Acer pseudoplatanus*) at the entrance.

The main gardening area with 50 raised beds in wooden boxes with diameter 120 cm x 80 cm is situated next to the playground (Fig. 29). Between the boxes there are also two tables with benches and a water reservoir with one hundred litres capacity. There is also an entrance into the school building here, specifically into the gym. A border between gardening area and the playground fence is created by couple of maple (*Acer pseudoplatanus*) and cherry (*Prunus avium*) trees. Next to the wall on southern site of the area there is a small green area with few Silver birches (*Betula pendula*) and one elderberry shrub (*Sambucus nigra*). A wooden three-bin composter is situated under the birches, too. One of the bins is used for the storage of gardening tools and two for composting.



**Figure 31: Construction of wooden growing boxes in the courtyard of Special School with Kindergarten Karpatská. (Source: Mobilné záhrady, 2016)**

The central area of the courtyard covered by concrete is empty and suitable for different activities than gardening. Here are taking place all the events, concerts and film screenings organized by the gardeners and Vnútroblok. The north-western part of the yard disposes with a small area with lawn, shrubs (*Forsythia x intermedia*) and various trees such as cypress (*Chamaecyparis lawsoniana*), maple (*Acer pseudoplatanus*), small young spruces (*Picea abies*) and arborvitae (*Thuja occidentalis*). One will come to the second entrance from the Jelenia Street following a path along the southern wall.

## Zone plan description

The zone plan with number CG 04 V 01 displays only the part of the courtyard that is occupied by the garden. Although the remaining space with playground included may be also used by the gardeners, it was not developed by the gardening community and it needs to stay open for the activities of school kids. The wooden mobile boxes in the central area of the plot marked with green colour on the plan are used as plots cultivated by individual gardeners. This zone with the overall area of 48 m<sup>2</sup> is in close proximity of the red lounge zone. The eastern and southern marginal area is reserved for the gardening space maintained by the whole community. The remaining space is marked with blue as the multifunctional space. Additional space for children is not necessary because of the existing playground within the school courtyard.

## Garden Production

In the Mobile Garden Karpatská the capacity of raised beds is quite small so the social aspect is much more important than the gardening production. The local conditions aren't very advantageous for the gardening during the summer. "Hot concrete and hardly any shadow create together almost subtropical dry climate." described one of the gardeners Kika.



**Figure 32:** On the left photo there are strawberries planted in the raised bed. On the right photo there are radishes, young plants of paprika and tomatoes. (Source: Šakový, 2016)

However, the community members have very passionate attitude to their plots (Fig. 32). Kika successfully harvested tomatoes, carrots and kitchen herbs. She experimented also with kohlrabi and green peas but the raised beds were too dry for these crops. Sandra uses the small plot for unusual kitchen herbs that aren't available in the shops.

The special school used 10 raised beds during the season in 2016. Two raised beds were used by the school club, three by the preschool and five by various classrooms. The school headmaster described their gardening efforts:

"The school club had one box without any plants, just filled with the soil so the kids could poke and dig in it and get into touch with the earth and dirt. We planted various herbs, tomatoes and flowers into the remaining boxes together with our students during the lessons."

The corporate sponsor company with dairy products RAJO adopted raised bed with register number 30 and the gardeners planted two trees into it, the Common plum (*Prunus domestica*) and the Common fig (*Ficus carica*) and the climbing strawberries (*Fragaria x ananassa*). The fruit kinds are part of the taste composition in one of the favourite yoghurts.

## Social Organisation

At the beginning the whole project was managed by Vnútroblok. The civic initiative has a tool how to choose the gardeners so they will be from the close neighbourhood. The distance between the garden and living place of all concerned persons is analyzed on a map (Fig. 33). Who lives closer to the garden has a higher chance to get a growing box. This process is repeated yearly, before every gardening season because of high fluctuation in the composition of gardening community. The gardeners from previous season are automatically entitled to continue with their boxes.

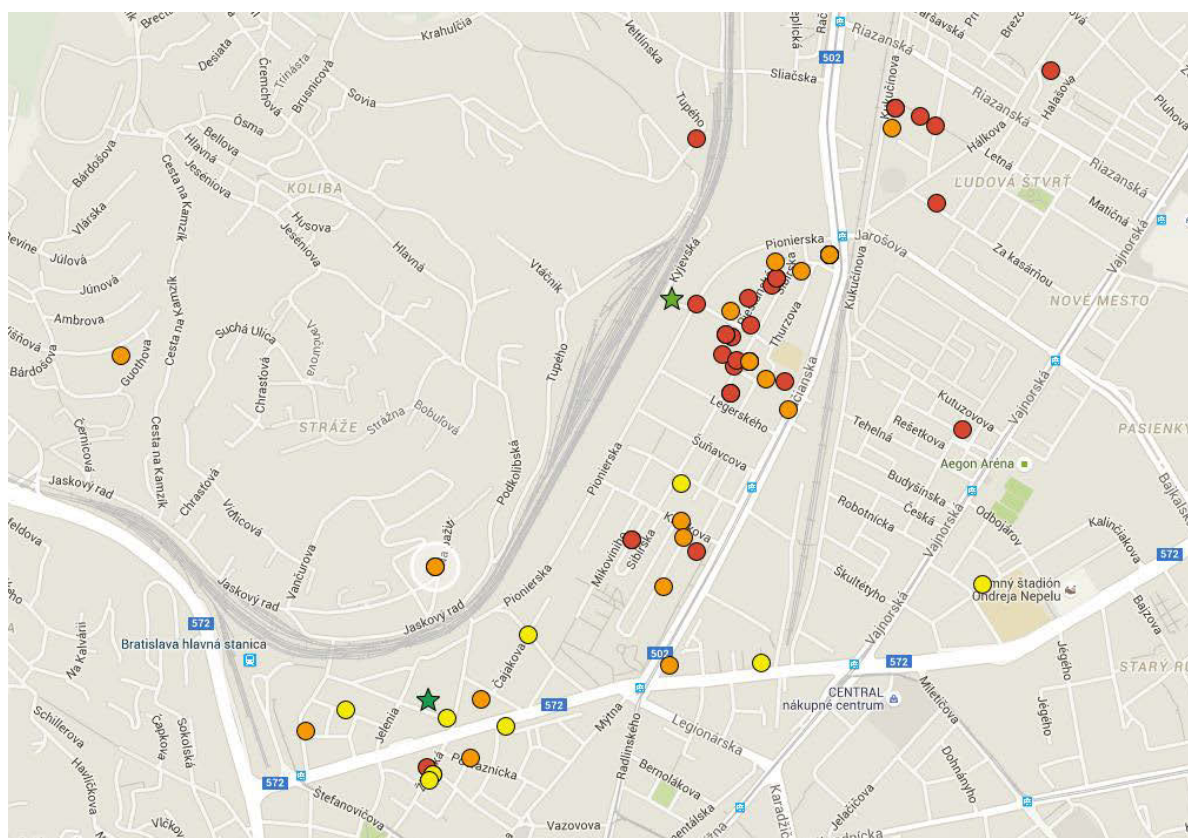
"The main goal is to get the neighbours together, so they have space to communicate and at least say hello when they meet each other on the street." said Sandra from Vnútroblok.

Vnútroblok has been still helping with some organisational stuff but the community should create an independent organisational system in close cooperation with the special school since the next gardening season. The community composition consists of the local neighbours and students with teachers from special school. The locals are mainly young people. The courtyard area is open only during lessons and the main gate is closed with a code-lock during the remaining time. The community members know the code and can enter any time.



"It was great because the community members were coming to the courtyard also in evenings, so the area was occupied by decent gardeners and there wasn't space for unidentified groups of weird individuals." said headmaster of the special school.

The parents of the kids in special school are very enthusiastic about the gardening project on the court-yard but there is only one raised bed occupied by a family related to the school. Anyway, as the headmaster said "One swallow brings another".



**Figure 33:** This map is the basis for selection of gardeners in Mobile Garden Karpatská managed by Vnútroblok. The yellow points are new gardeners. The red points are gardeners from former gardening season and the orange points are new gardeners in Community vineyard Pionierska. The closer candidate has higher chance to become a gardener. For the selection of gardeners in Community Vineyard Pionierska was used similar model. (Source: Mobilné záhrady 2016)

## Financial Organisation

Vnútroblok calculated that for necessary transportation and reconstruction expenses they need 3500 € and announced this on StartLab - Crow funding platform oriented on charitable projects. They created five models of support: For 5 € they offered "many thanks", for 10 € had been the donor rewarded with a small printed graphic of a garden drawn by a young

artist, for 20 € there was the graphic and a textile bag with sign "Friend of mobile gardens", for a contribution of 35 € was the graphic in bigger format and for 140 € one could adopt a tree planted in the community garden Karpatská. The campaign was very successful and they collected all together 4 693 €. This was also thanks to a beneficial concert in October 2015 that was a part of the campaign.

Thanks to the cooperation agreement with the special school, the gardeners can use the courtyard without any payment. The only fee is charged for water that they use. This can be covered by the gardening fees. First growing box is for free but each additional costs 15€ / year. The community can collect round 120 € per year.

Company with dairy products RAJO adopted one growing box. This company supported the mobile garden with 750 € and hundreds of yoghurts for picnics organised on the schoolyard.

One of additional fundraising tools that used Vnútroblok for the support of their projects is the platform Great Country (Dobrá Krajina) created by foundation Pontis. It is an internet portal with an aim to collect individual gifts for non-profits in Slovakia. Vnútroblok registered there the project of mobile gardens through that they supported already two another community gardens, too.

## **Concept and History**

The former mobile garden Sasinkova experienced two successful gardening seasons and after kilograms of produced vegetables, dozens of picnics and grill parties they got an announcement from the land owner that the land plot is sold and they need to move out in 2015 (Vnútroblok, 2015). Such a scenario is a part of life for the mobile gardens and Vnútroblok was already negotiating with other partners about the next location. The initiative came from the headmaster of a special school on Karpatská street that is located only 15 minute-walk from Sasinkova. She was interested in an integration of the students, children with mental disability, into the community of local neighbourhood. She offered the unused schoolyard for installation of the mobile raised beds.

"Working in the garden is also a therapeutic tool and a method of experiential learning. Similar projects abroad refer to the benefits of gardening for disabled children, such as increased use of senses and improved motor skills, team work, but also an increased sense of responsibility and patience." headmaster of the Special School with Kindergarten Karpatská.

Vnútroblok started immediately the transportation and created also a selection system for the potential gardeners. The only criterion for acceptance into the gardening community is



the distance between the garden and the living place of the concerned person. The closest candidate has the biggest change to become a gardener in Karpatská. Very important part of the project was the fundraising for necessary expenses. Vnútroblok organised a beneficial concert at the schoolyard in October 2015 with voluntary entrance fee that was used to support the community garden.

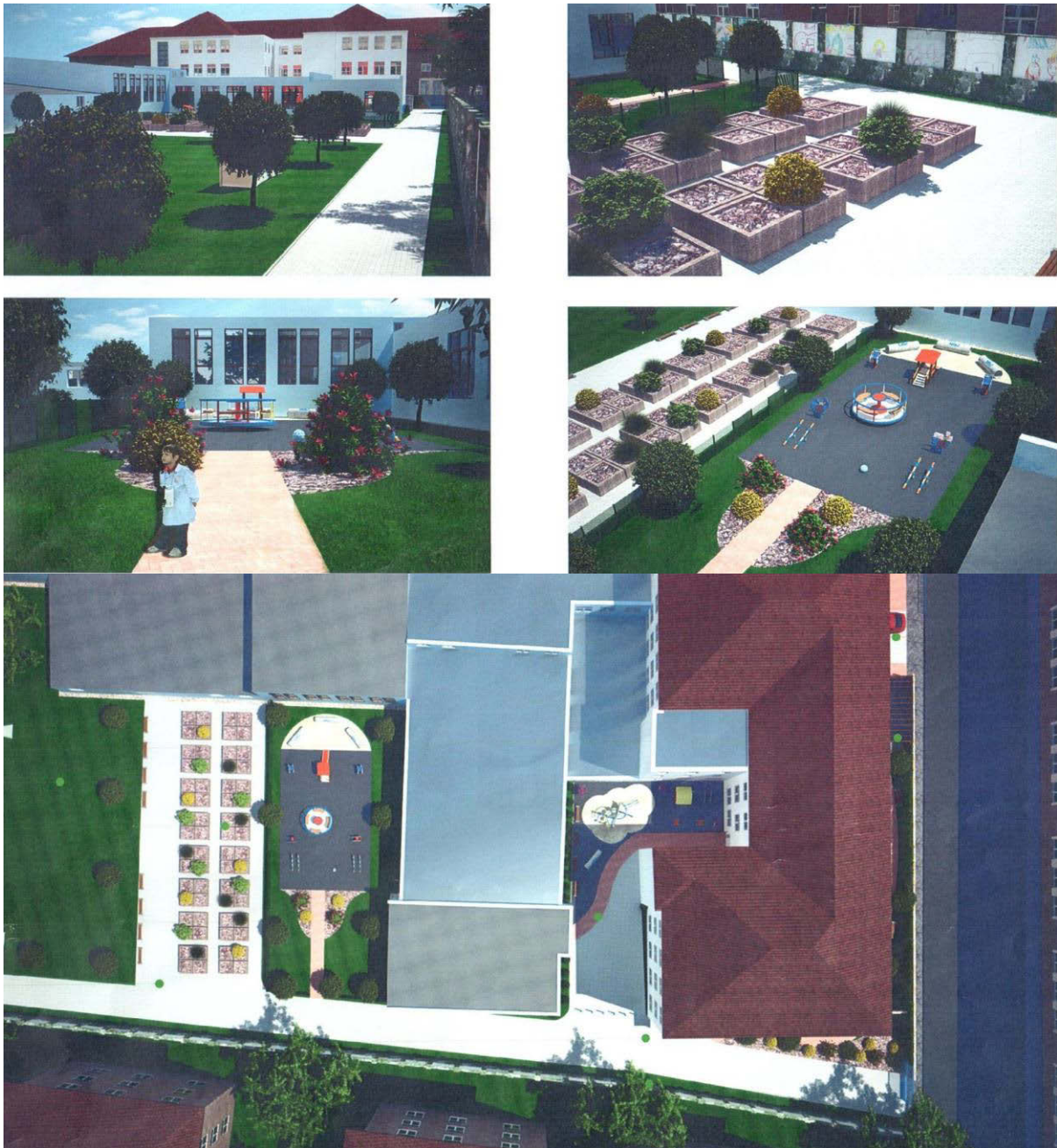


**Figure 34: The first season was opened with a concert of music groups from Bratislava. In the background is the building of the special school. (Source: Šakový in Vnútroblok, 2016)**

First meeting on the courtyard was on 16. April. Some of the gardeners haven't seen each other before, but all of the participants were really motivated and started with the construction of raised beds. The second brigade one week later focused on construction of the fifty wooden boxes used for gardening. Thirty-eight were brought and reconstructed from different community garden Pod pyramídou that needed to move out of its grounds and twelve were constructed completely new. On sixth may 2016 was a public concert that opened the first gardening season in community garden Karpatská (Fig 34).

The headmaster of the special school announced that she found a sponsor for the courtyard reconstruction in July 2016. The next season 2017 shall start with completely new design (Fig. 35). The old wooden mobile boxes were moved to a new location Ostredky in Bratislava, where is coming into life a new community garden managed by Vnútroblok and

other partners. The sponsor of the reconstruction in Special School Karpatská is a producer of building system Durisol and within the reconstruction they will replace the mobile wooden boxes with solid and permanent gardening pots. The material is made from a proprietary cement-bonded wood fiber material that has only natural ingredients. It is composed of specially graded recycled waste wood (100% clean, natural softwood lumber) that is first chipped into wood fiber and after that mineralized and bonded together with cement (Leier, 2017).



**Figure 35: The visualisation of the reconstruction project of Special School Karpatská that will be performed by the company Leier (Source: Leier, 2017).**



## Activities

Karpatská has absolved only the first gardening season this year. Most of the activities were related with transport and construction of the gardening boxes and equipment. Vnútroblok organised also workshop about composting combined with the construction of composting box (Fig. 36). The activities in garden are open for public, however only some of them are really promoted.

On 6. May was the official opening of the community-school garden with open air picnic and live music. Two bands from Bratislava played a concert. The event had great response from the audience composed of gardeners and visitors.

The gardeners organized many meetings and picnics in the garden. One of them, associated with film screening and bat watching after sunset, was taking place in June. Another screening was in May.

In September was the final harvest festival with a concert and exchange of home-made jams (Fig. 37). There were playing two bands. One is a international artist Sinead that is exploring and reflecting how our environment shapes what we experience by musical production in public spaces and the second described Sandra with her own words.

"This time came a band called Chalani z chatrče (Slumdog fellows). Four guys with guitars from a roma settlement in South-eastern Slovakia that are playing about their everyday life. This was the only musical production in Karpatská paid by the money collected in fundraising."

One of the most important activities performed in the garden is the horticultural and environmental education during the classes in the special school. The headmaster of the special school explained her interest in the creation of a garden on the schoolyard: "Our children are basically children with mental disabilities, that we prepare for life, so many of the



**Figure 36: In June 2016 was held a composting workshop with construction of composting box in cooperatio with the organisation Friends of Earth (Priatel'ia Zeme). (Source: Mobilné záhrady 2016)**

classes are dedicated to the technical education. They need to obtain manual skills in plant care and horticulture, because it is possible, that some of them will become gardeners."

The teachers are performing with kids in the special school also other activities related to nature. One of them was the cultivation of butterflies from eggs or breeding of birds. The headmaster is dreaming also about rabbits and she would like to have a vermicomposting worm farm for the gardening activities.

Vnútroblok organized during the first season also a special event that improved the grey concrete pavement. Kika explained the main idea: „We painted together with professional designers lines and structures that should stimulate the fantasy and creativity of visitors, especially children and inspire them to play. We were very pleased by the results, when we saw the kids from the special school using it during their outdoor games." The concrete pavement was removed during the reconstruction in winter, but the concept can be repeated again in the next season.

One of the plans was the installation of rainwater collectors from the surrounding roofs to cut off the consumption of drinkable water for simple potting of the vegetables. The headmaster and the gardening community agreed to discuss it again after the reconstruction.



**Figure 37: The final harvest festival on 24. September with music and exchange of home-made jams (Source: Rajo, 2016).**



## Interpretation

The biggest potential of the garden is in the fusion of local community, gardening, education, children with mental disability and public events. The interconnection of these elements is completely dependent on the motivation and willingness of the participants, but the success can be supported by good design.

According to the headmaster of the special school, the new project should offer 20 raised beds in concrete boxes with diameter 120x120x60 cm<sup>3</sup> although on the visualisation (Fig. 35) are drawn 64 boxes. The reconstruction doesn't involve the gardening facilities such as composting container or a central space for meetings that is essential for community gardening. Karpatská with its location in the old town, good promotion on internet social networks and crowded public events requires a special place for socialisation. Few benches that are drawn on the plan made by Leier cannot meet the needs. However, the school headmaster is open for extension of the planned project. She still doesn't know exactly how the final realisation will look like but she acknowledged that compost is for gardening essential and if there will be a demand for more gardening space she will find a solution. It is a pity that the reconstruction wasn't discussed with the gardeners, especially when there are two professionals within the community, one architect and one landscape architect. They would be happy to collaborate on the design.

A little problem was with the toilet and storage space for tools. The compost bin is quite small for the gardening tools and one shovel was even stolen out of it. It would be good to have a locked tool shed, in best case in combination with an arbour that could provide a place for meetings and give some shadow during hot summer days. The school was mostly closed during the afternoons and the gardeners had to use the toilet at a nearby restaurant. This model worked although a closer cooperation with the school could make things easier and it would be adequate to use the toilets within the public school complex.

The gate leading to the courtyard of the special school is usually closed with code-lock in the afternoon but the gardeners know the combination so they can come anytime they want and after prior agreement with the school directorate they can even open the space for wide public. This was working very well till now.

## 6.5 Comparison of the case studies

All four case studies have certain elements in common (Table 2). Above all, short lease agreements are making their situation uncertain. The site owner is always the official authority: City of Bratislava in two cases (Krasňanský Zelovoc and Pionierska), Bratislava Water Company (Vodárenská) and Slovak Republic (Karpatská).

On the other hand every community garden has individual situation and it is hard to generalize the conditions. The shortest 1-year cooperation agreement in Karpatská can serve as an example. However, the situation doesn't look like as the end of the project. On the contrary, it is developing further, thanks to the reconstruction of the courtyard and motivated headmaster of the special school, so there is a positive new perspective for the future. The 3-year cooperation agreement in Pionierska is linked directly to the City of Bratislava through the initiative Adopt Your Green. This can have positive influence on the process of recognition of community gardens by official authorities. The 5-year tenancy agreement in Krasňanský Zelovoc is coming to an end and the gardeners are afraid whether the land owner prolongs the lease. A big promise in this issue is the involvement of Krasňanský zelovoc into the official land use plan of zone Krasňany.

Very interesting is the comparison of sizes. Although Krasňanský Zelovoc is the smallest from the case studies (610 m<sup>2</sup>), the plots offer over two times more space (196m<sup>2</sup>) than the plots in Pionierska (81 m<sup>2</sup>) that operates with the largest total area (3000 m<sup>2</sup>). This reflects the fact that the community gardening is possible also on smaller properties. Krasňanský Zelovoc is the first official community garden in Bratislava and the gardening community managed to utilize almost every corner of the property during the five years of existence. However, the diverse case studies cannot be rated only by the size and crop production. The virtue of Pionierska is more in the viticulture and perspective of wine production than in the crop production. The vineyard experienced two successful seasons, the community structure is still in development, but it is a unique project.

The social aspect is at least so much important as the garden production in all case studies. It's very individual and in every garden there are people who prefer to dig in the ground to interact with others but the quantity of events organized for wide public in every case study is showing that the socialisation is a strong aspect of community gardening. The biggest events are the restaurant days in Krasňanský Zelovoc and Vodárenská and concerts with picnics in Karpatská. Karpatská has the smallest amount of available gardening plots, but the public events attracted the biggest crowds.





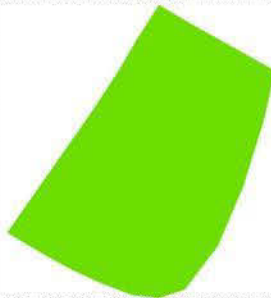



NAME & SETUP	SIZE	SHAPE	LEASE CONTRACT	SITUATION	LOCATION	FEATURES
Community Garden Krasňanský zelovoc  May 2012	Total: 610 m <sup>2</sup>  Individual gardens: 29 plots (196 m <sup>2</sup> )		5 year tenancy agreement with symbolic rent; 60 € per year	Courtyard next to the health centre;  Administered by the city district Rača;  Site owner is City of Bratislava;		Family oriented;  Local events - Restaurant day, bicycle cinema, re- vitalisation of the adjacent street;  Involvement into the official local zoning plan
Community Garden Vodárenská  May 2013	Total: 2100 m <sup>2</sup>  Individual gardens: 16 plots (150 m <sup>2</sup> )		5 year tenancy agreement without charges	Unused area on the grounds of Waterworks Museum;  Site owner and administrator is Bratislava Water company with the City of Bratislava as the main stakeholder		Permaculture design; Environmental education; Glasshouse; Workshops; Events - Restaurant day, tour during a festival,
Community Vineyard Pionierska  April 2015	Total: 3000 m <sup>2</sup>  Individual gardens: 84 plots (81 m <sup>2</sup> )		3- year coop- eration agree- ment	Vineyard in the railway protection zone;  Administered by the city district Nové Mesto;  Site owner is City of Bratislava;		Viticulture and winemaking; Workshops and brigades; Constantly open
Community Garden Karpatská  May 2016	Total: 400 m <sup>2</sup>  Individual gardens: 50 plots (48 m <sup>2</sup> )		1- year coop- eration agree- ment without fees except water (drinkable)	School courtyard;  Administered by the Special primary school with Kindergarten Karpatská;  Site owner is Slovak Republic;		Interconnection of locals and children with mental disability; Public events— concerts, workshops and screenings

Table 2: Comparison of the case studies (Own processing, 2017)

The social aspect is at least so much important as the garden production in all case studies. It's very individual and in every garden there are people who prefer to dig in the ground to interact with others but the quantity of events organized for wide public in every case study is showing that the socialisation is a strong aspect of community gardening. The biggest events are the restaurant days in Krasňanský Zelovoc and Vodárenská and concerts with picnics in Karpatská. Karpatská has the smallest amount of available gardening plots, but the public events attracted the biggest crowds.

The community in Krasňanský Zelovoc has very good structure and organisation thanks to the related family centre. Young parents with kids are the hardcore of this case study. In Vodárenská is the situation different. Environmental enthusiasts in cooperation with the NGO Živica and the director of Waterworks Museum formed and enforced the idea of community gardening. The spirit of the school headmaster together with the management of Vnútroblok shaped the project of Karpatská. Pionierska rose again thanks to Vnútroblok and the positive response from the major of the Nové Mesto borough.

## **6.6 Typological survey**

The survey of case studies indicates the typology of community gardens in Bratislava (Tab. 3). There are four examples of plots situated on the areas related to different services of urban infrastructure. Hence the healthcare, education, water supply facilities and railway protection boundary can be combined into one unifying type: Community garden in the open space of urban infrastructure. All of the four gardens are organised and maintained by local residents and NGO's.

Community Garden Krasňanský zelovoc is situated on an unused lawn behind the local health centre that is owned by the municipality and administrated by the city borough. The Community Garden Karpatská is located on the courtyard of a special school that is owned by the state and administrated by the school. The Community Garden Vodárenská is situated on the property of Waterworks museum, owned by the Bratislava Water Company in which the majority stakeholder is the City of Bratislava. The Community Vineyard is located on the land reserves intended for the road extension in the area of railway protection boundary owned again by the municipality. The most interesting on the situation in Bratislava is the cooperation between official urban institutions and local citizens.



	Community garden situated in the open space of urban infrastructure: healthcare, education, water supply facilities and railway protection boundary		
Community garden organised and maintained by local residents and NGO's	Community garden on the area of a local healthcare centre in municipal ownership		
		Community garden on the area of a school courtyard in public ownership	
			Community garden on the area of Waterworks museum in private ownership with the City of Bratislava as majority shareholder
			Community vineyard on the area of railway protection boundary in municipal ownership

**Table 3: The typological survey of community gardens in Bratislava (Own processing, 2017)**

## 6.7 Evaluation of zone plans

The zoning of the investigated community gardens in Bratislava is showing some similarities, despite the fact that every case study has different spatial and organisational circumstances and background. The plots cultivated by individual gardeners are more or less grouped together (Fig. 38). This zone is creating the source for all other activities performed in the garden. Closely adjacent to this primary area is the lounge zone. The garden area cultivated by the whole community and basic infrastructure such as compost or toilet is located mainly on the periphery and somehow encircles the plots of individual gardeners, so every community member has comfortable access to it. Only the community vineyard has a different structure, because of the common vineyard rows. The storage space is also situated mainly near the edge and usually it's adjacent to the lounge zone. A specific zone is the space for children and educational zone. This is representing a secondary activity so it finds place on the periphery too. The multifunctional space is used predominantly for paths and open spaces. It creates a web of connections between other areas.

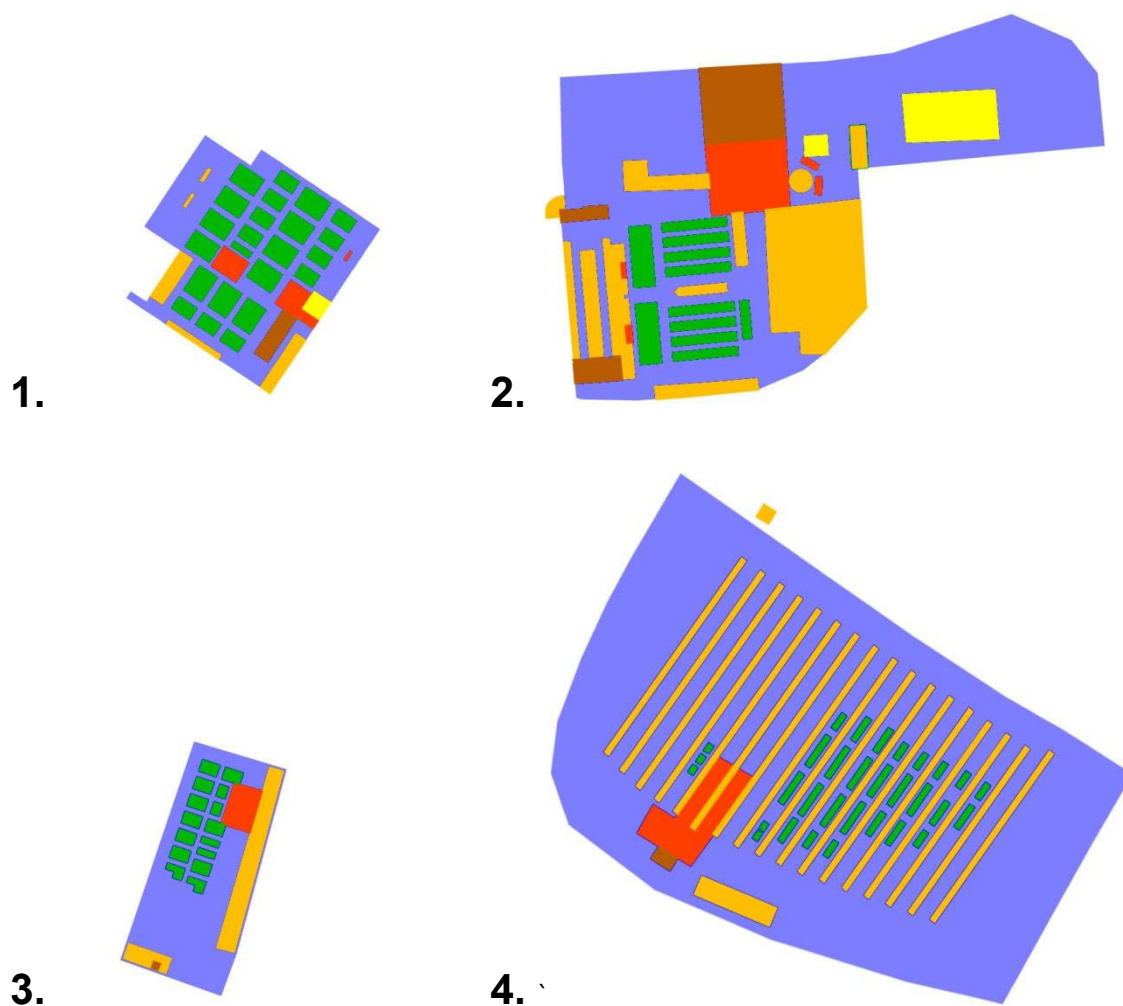


Figure 38: The comparison of zone plans of the case studies. 1. Community Garden Krasňanský Zelovoc, 2. Community Garden Vodárenská, 3. Mobile Garden Karpatská, 4. Community Vineyard Pionierska. Colours: green - plots cultivated by individual gardeners; red - lounge zone; orange - garden area cultivated by the whole community and basic infrastructure; brown - storage space; yellow - children and educational zone; blue - multifunctional space. (Source: Own processing, 2017)

As the most efficient out of the case studies in the question of zoning can be evaluated the Community Garden Krasňanský Zelovoc. Mainly because of the distribution and complexness of the whole plot regarding to its size.

## 6.8 Interpretation of Inside and Outside Space of Community Gardens

All the interviewed respondents live in flats in the housing estates, mostly in a walking distance from the garden. The dense built environment is creating restricted conditions for

the inhabitants in the question of outside space. The case studies are showing that community gardening offers an opportunity for socialisation and occupation of residential area. The gardens are creating a model of half-private space that gives to the users a particular feeling of safety and freedom, but it remains public. Especially the Community vineyard Pionierska, that is constantly open, creates a specific type of public space appropriated by the citizens. The Community Garden Vodárenska and Mobile Garden Karpatská are little bit struggling with their location. The gardeners in one of them are bounded by the additional rules dictated by the Bratislava Water Company and in the second one by the control and wilfulness of school management. Therefore it is questionable what is better: More security or more freedom?

The distribution of inside and outside space within the community gardens depends from the particular spatial situation, but all case studies have some basic principles in common. Inside space represents a small building or shed. The building has just secondary function and doesn't serve for socialisation. Its serves as the storage space for the gardening tools or as a shelter from the rain. The higher importance in community gardens has the outside space that covers also most of the area. These are all the gardening plots and basic facilities situated within the community gardens. There is a special area with benches and tables, usually adjacent to the building. This space creates a connection between the inside and outside space, it's the lounge zone where the gardeners meet, invite guests and organise social events. It is an outside space with the feeling of privacy.

The inhabitants needed to get out from their private inside space to meet and socialize together. They can shape and develop the community gardens following their own vision and preferences. There are certain rules in every garden that differ slightly from the usual behaviour on the street. The study of case studies showed that the community gardening can be an important tool by the planning of residential areas, especially in post-socialist cities like Bratislava. The city districts should recognize community garden as an official land use category and develop a local framework for community gardens.

## **7 Lessons learned from Bratislava**

### **7.1 Philosophy- Why is community gardening so important in the city?**

Community gardening is a phenomenon that emerged in the whole world during past decades because of many reasons. In Cuba it was the collapse of the trade and relation with Soviet bloc and the following economic crisis. The urban gardens in Havana and other cities came into living as grassroots movement but became a significant source of fresh food for the citizens (Altieri, et al., 1999).

However, the motivations are in every case study different because of the spatial and structural organisation. The biggest area cultivated by individual gardeners is in Community Garden Krasňanský Zeločov which is occupying relatively small total area. The gardeners in this community are describing their motivations as fifty - fifty, socialization and garden production but an important fact is also that the gardeners are young parents and they want to show their kids how their food grows. In the Community Vineyard Pionierska is the situation different. The plots for gardening are quite small but there are the vineyard rows maintained by the whole community. The main vision is a communal vineyard maintained by locals. Some community members are participating only on the group events and they doesn't have any raised beds for own production. Community garden Karpatská is in its actual development phase more about social events and interaction between people than the garden production. The whole project is standing on the cooperation between the special school with handicapped children and people from local neighbourhood and on the effective utilisation of the schoolyard also in afternoons and evenings. Community garden Vodárenská has a concept of permaculture garden with regular educational and social events for public.

This brief summary of different motivations and guidelines that are driving the whole processes in community gardens in Bratislava is showing the little differences that are directly related to the participating community and location of current projects. But there are philosophical principles that can be applied on each of the community garden. The interviews with gardeners revealed that the reasons for their participation are: socialisation, contact with nature, gardening production and space for children. Someone can argue that all of this would be possible also in the existing urban structures and we don't need the community gardens for it. The people can socialize in parks, squares and restaurants. Kids



can play on the playgrounds and there are many green areas in Bratislava where you can get in contact with nature. And if someone necessarily needs the gardening, then he can buy or rent an allotment garden or use his balcony for vegetable growing. So why is community gardening so important for us?

One of the unifying elements for the case studies in Bratislava is the active citizenship. The community members want to meet and be active in the local neighbourhood. They want to change their environment so they can be a part of it. Helmut Böse (1981) described how can such an activity create a feeling of responsibility and improve the quality of open spaces: "The diversity of open spaces arise also with the diversity of the responsible users. The people that can realise their ideas in their own garden are building up familiarity and accessibility to the sidewalks, squares and remaining areas as well. Together with the responsibility for their own garden they feel responsible also for the adjacent areas, for "what is happening in the front of the house"." The gardening community in Community Garden Krasňanský Zelovoc for instance revitalized the lawns and tree pits on the adjacent Cyprichova Street. People in the Community Garden Karpatská planted fruit trees on the schoolyard and painted the dull concrete pavement. Such a participation in the creation and revitalisation of local environment can have a positive impact on children that can be a part of it. They see that public spaces aren't only full of restrictions but they are allowed to transform it. This is also the main reason why the citizens aren't satisfied with the offer of parks and green spaces in Bratislava.

Another important aspect is the creation of a community through the joint labour. People need to share their experience, struggles and rejoicing, but they want to organise their space as well. The development of a community is a long process, where anybody can test his social skills. The members need to set up the rules, choose the leaders and take over the responsibility. Everything is based on the motivation and invested labour.

Gardening is a perfect activity for it. It is physical, relaxing and intuitive. As some gardeners in the Community Vineyard Pionierska described, the work with own hands in the garden is a kind of "back to the roots" activity that can help us to regain the mental balance. That is also one of the reasons why the headmaster of the special school wants to implement gardening into the education of disabled children.

The ecological principles are an important aspect in the philosophical background of community gardens in Bratislava. In all case studies the plants are cultivated without any chemicals and artificial fertilizers. The implementation of insect hotels and companion

planting is involved in the gardening practices as well as the use of rainwater seems obvious. Many gardeners mentioned that they hadn't much previous horticultural experience and their gardening activity is an instant process of empirical learning.

## **7.2 Spatial organisation in post - socialist cities - the utilisation of available structures**

The basic principles of the New Unit of Settlement in The Ideal Communist City (1968) are based on equality: 1.Equal mobility for all 2.Distances are planned on a pedestrian scale 3.Vehicular traffic danger elimination 4.Green belts. Although it may seem quite reasonable, the whole vision created by Alexei Gutnov and his team, as well as the ideology that was standing behind it, is missing something important. Namely the democratic involvement of the citizen and freedom of choice (Major, 2016; Kurimska, 2015; Myers, 2008).

The principles of socialist urban planning were identical in all countries of the East Block (Enyedi in Bitušíková, et al., 2010). The planned urbanisation strived for equal living conditions for all by producing large state housing complexes. The mixture of different social groups and classes had to diminish class differences and urban planning was completely controlled by state bodies.

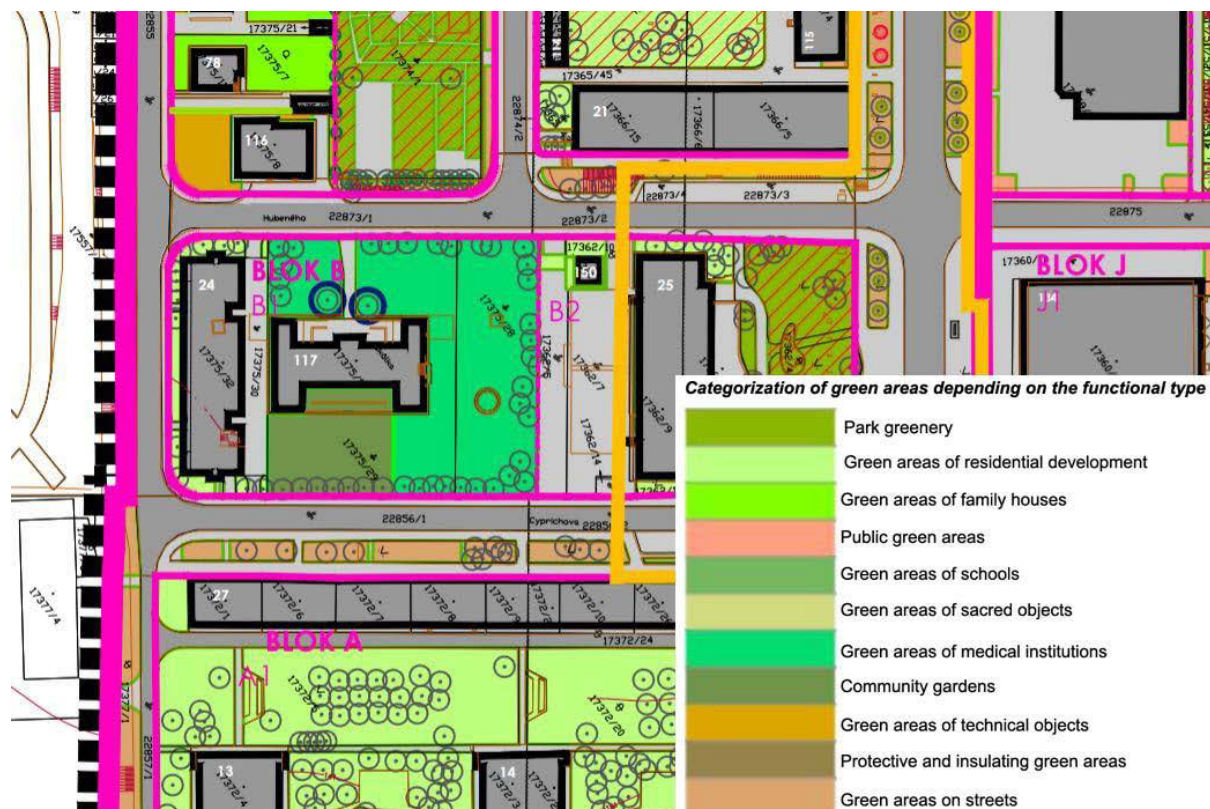
Bratislava, similarly to other cities in Eastern Europe, has been going through intensive transformation since the political revolution in 1989. The fall of communism and the rise of democratic political system reduced the direct state intervention and opened marked for new investors and international economy. The privatisation and restitution led to rapid restoration and commercialisation of the inner city. Uniform urban landscapes dictated by socialism are being revitalised by the impact of the political, economic and cultural transition to capitalism (Sýkora, et al., 2012; Bitušíková, et al., 2010).

The state ownership of the land, egalitarian communist ideology and centrally planned economy influenced also the architecture and especially construction of housing estates in Bratislava (Moravčíková, et al., 2012). The 'complete housing construction' was applying the principles of Athens Charter and it involved complete public facilities, recreational greenery, playgrounds and sport facilities.

Sýkora with Bouzarovski (2012) argue that according to the institutional transformation which was accomplished by national governments during the 1990s we may speak about 'cities after transition'. However this cities are still undergoing numerous social, economic, cultural and political transformations, resulting in urban change marked by the reconfiguration of the built environment, land use patterns and residential socio-spatial differentiation.

The socialist propaganda of collectiveness was replaced by capitalist economy that is driven by individual choice of consumer attracted by advertisement. The employment share in services rapidly increased but the manufacturing sector fell down. The brownfields created by intensive deindustrialisation are dilapidated, waiting for further redevelopment (Kunc, et al., 2014).

In this socio-political environment the community gardens studied in this thesis were created. Interesting fact is that all of the case studies are located within the urban infrastructure. Two of the plots are owned by the city. Community Garden Krasňanský Zelovoc that is situated on the unused grounds of an old socialist health centre. The health centre belongs to the basic infrastructural facilities in Krasňany, one of the earliest Bratislava housing estates finished in 1962. The commercial development didn't cover all dysfunctional spaces in this area yet and this gave the possibility for appropriation of the public land by the residents. There is already a project for development of the remaining green area adjacent to the health centre. Although that piece of land is already in private ownership, the plot where the community garden is situated remains unchanged for now, as it is proposed on the land use plan of zone Krasňany.

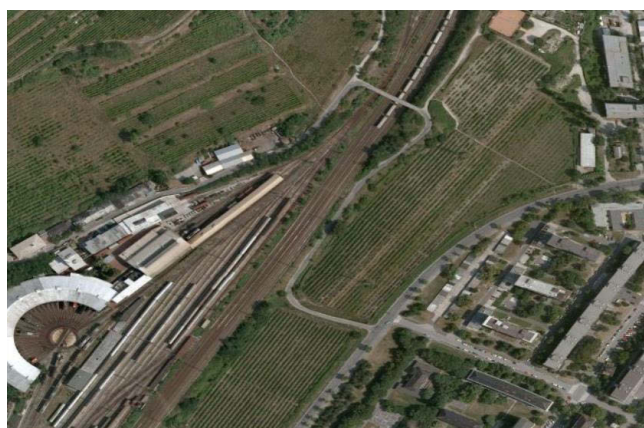


**Figure 39: Section of the categorization of green areas depending on the functional type in Krasňany, Rača. The land use plan of zone Krasňany made by AŽ Project s.r.o. is first official document mentioning community gardens in Bratislava. (Source: AZ Project s.r.o., own arrangement, 2016)**

This plan was procured by the city district Rača and made by the studio AŽ PROJEKT. On the Figure 39 is a small section of the green areas categorisation depending on the functional type with legend disposing also with a category "community gardens" first time in Bratislava history. This small precedent shall hopefully start a new era in this city for people interested in gardening and interactions with their neighbours without money for their own ground.

The second city owned plot utilized as a garden is the Community Vineyard Pionierska. These are the last vineyards that endured the post-war urban development in this location. After communists took power in Czechoslovakia, the land collectivisation began and all the vineyards got under the administration of 'Single Collective Cooperative' Vinohrady (JRD).

Although the agricultural practices in that period had many deficiencies (Orsillo, 2008) the vineyards were intensively cultivated. As Štassel (2016) remarked, even 18 years after the transition is the structure of vineyards still visible on the satellite map from 2007 (Fig 40). But the restitutions and development



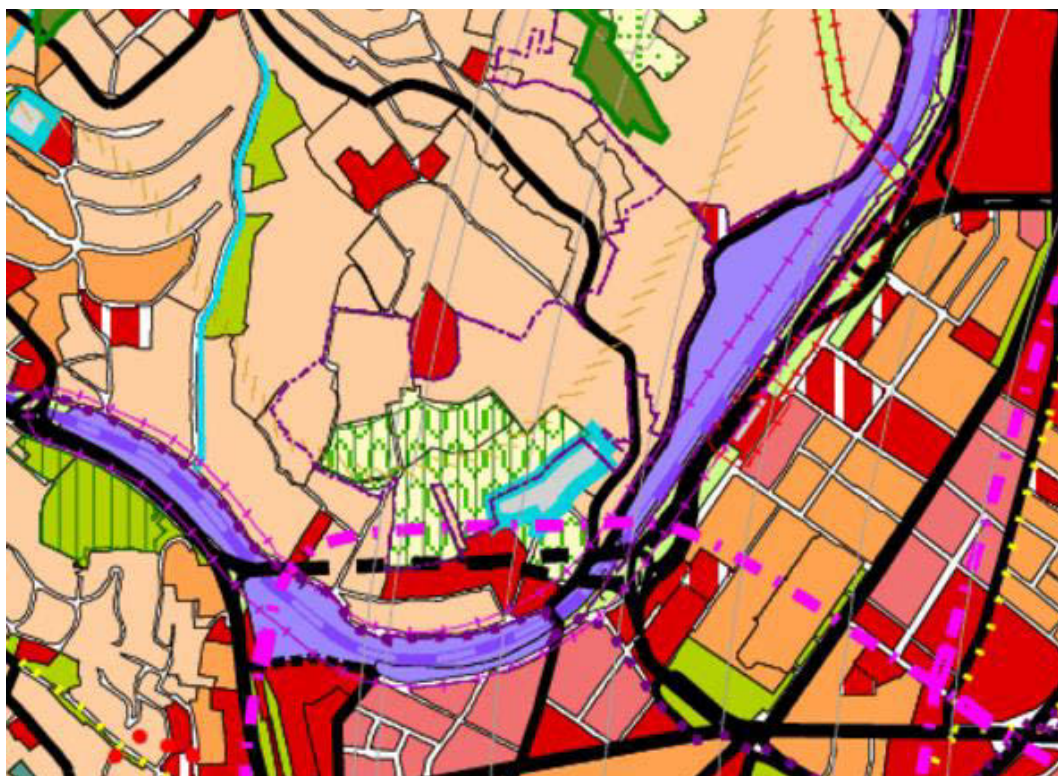
**Figure 40: Satellite map of the area made in 2007 with vineyards. (Source: Bingmaps, 2007)**

changed the whole character of this area and the vineyard dilapidated in the last decade. There are more plots in this area characterized as a vineyard in the cadastral map, but all of them are in private ownership. The main reason of the disinterest for this area from the site of developers is the planned controversial 'Northern tangent' (Severná tangenta) that should lighten the traffic in the inner city. The project is already involved in the official development and zoning plan for Bratislava, approved in 2007.

On the Figure 41 a section of this plan is displayed with the Northern tangent which passes, among others, between the railway and the Pionierska Street directly through the plots where the community vineyard is situated. This zoning plan is being renewed approximately every thirty years and it represents the main planning instrument for the city. However, it is criticized by professionals (Moravčíková, et al., 2012) because of the lack of a clear strategy for future development of the city and its individual districts. On the other hand it cannot replace the detailed planning that is still absent in majority of housing estates, which has caused the disproportional growth based on individual interpretations of the zoning plan by building offices. The future of the Community Vineyard Pionierska remains unclear, but the



utilisation of an unused vineyard within the inner with long tradition can be characterised with the words of a gardener "Back to the roots!"

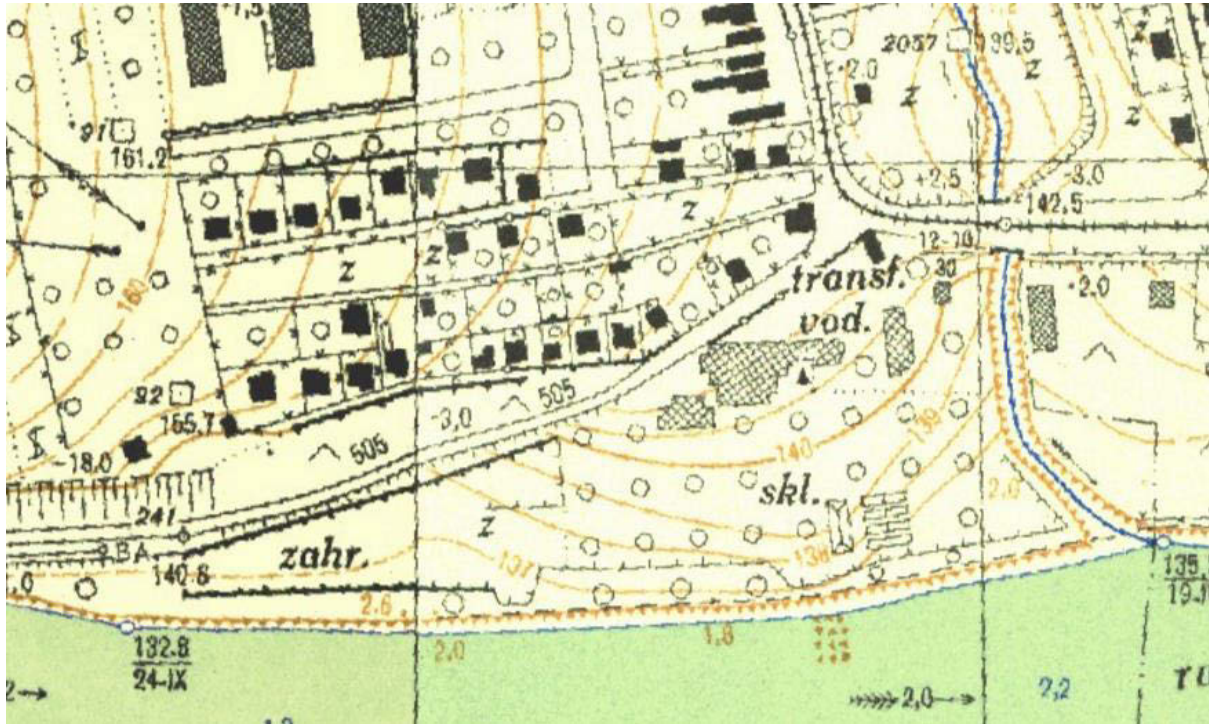


**Figure 41: Section of the official development and zoning plan for Bratislava. The blue colour marks the railway, the thick black lines are displaying the transportation infrastructure.**  
(Source: Bratislava, 2007)

The Community Garden Karpatská is situated on a plot in the state ownership. The school building was built in 1921 and with adjacent schoolyard endured all historical changes and twists, during the first Czechoslovak Republic, Slovak State, Czechoslovak Socialist Republic and it remained a school till today. The further development and change of use is more than doubtful. The main factor in the garden perspectives is the cooperation between the school headmaster and the gardening community. This model of appropriation can serve a good example for future projects of community gardening in Eastern Europe. The infrastructure facilities like school can offer space for the activities of local citizen that could be profitable for both sites.

The Community Garden Vodárenská is situated on the private land in Bratislava Water Company ownership. As was already noted the biggest share in this company is owned by the city so the citizens of Bratislava have right to discuss the potential and use of this area. Gardening is the original use of this space as it is displayed on the topographic map from 1958 (Fig 42.). Mr. Steiner a pensioner and former employee of Bratislava Water Company

described it clearly: "We had a big garden here before. Mostly employees of the Water Company were gardening there but some local residents participated too." Hence we can characterize the current community gardening activity as a revitalisation initiative in the frame of post-socialist transformation.



**Figure 42: Topographic map from 1958. The glasshouse (in Slovak skleník) with seedbeds can be clearly recognised in the south-eastern corner of the graphic. It is marked with the letters "skl.". The letters "zahr" in south-western corner can mean only záhrada - garden (Source: staremapy, 2017).**

### 7.3 Support of NGO's - The right to the city

The right to the city is an idea, inspired by the Marxist theory and proposed by French intellectual Henri Lefebvre. He created a utopian vision of urban life that is managed by the users. The organisation of public space should be beyond state and capitalism, because both concentrate the whole power into the hands of ruling minority. Lefebvre argues that we need to extend the rights of citizens. He lists many different rights, among them rights to information, to difference, to self-management, and a right to the city.

Mark Purcell ( 2013, 2002) summarized Lefebvre's writings *The right to the city* (1968), *Space and politics* (1973), and *The production of space* (1991) and proposed a contextual interpretation that can be applied on actual situation. He understands that this utopia isn't a completed solution but it should be seen as a opening to a new urban politics. Purcell

stresses the widely discussed problem of neoliberal reorganisation in the cities. Governance is being rescaled and the control is being transferred from citizens to non-state transnational corporations and organisations.

Whether consciously or not the right to the city is manifested in the community gardens in Bratislava. The driving engines for the idea are mostly the non-governmental initiatives and organisations standing behind the projects. A direct ideological connection to the appropriation of public space by the citizens is specific for the organisation Vnútroblok. It is a civic initiative bringing together ideas, projects and especially people who are interested in public space in the context of civil society. The platform arose because of the lack of adequate facilities in the public space and the disinterest of local authorities for the residents. The activists in Vnútroblok are exploring the city and looking for problems and solutions that would help transform the city into a place for the people. They believe that better quality of the public space will improve the quality of civil society and vice versa (Vnútroblok, 2013). This organisation has initiated already four community gardens in Bratislava. They have already a lot of experience with fundraising, voluntary work and organisation of projects and events. They try to create a framework for community gardens in Bratislava as a bottom-up activity, although Sandra from Vnútroblok complained that it is very hard to communicate with the municipality. There are only few enlightened individuals among the official authorities that are open for new ideas, mostly mayors of the city parts that recognise community gardening initiatives as a possibility for contact with citizens and promotion of own activities. Vnútroblok stands behind two case studies, Mobile Garden Karpatská and Community Vineyard Pionierska.

The Community Garden Krasňanský Zelovoc is linked with the family centre Ráčik that came into existence as an initiative of local mothers and fathers. Their existence is based on voluntary work without paid employees. Their activities are focused on the support of young families with small kids and development of local communities. With a simple philosophy "we show our kids that carrots don't grow on a shelf in a supermarket" they created a functioning community garden. The work and activities organised in the community garden are improving the quality of relations in the family centre and vice versa. Doing their best for their environment, the community contributed to the recognition of community gardens by local authorities. Their garden is the first that was involved into official land use plan in Bratislava.

The Community Garden Vodárenská was created and organized with the support of a non-governmental organisation Živica that deals with education, environmental awareness and

self-knowledge. Živica created a project of community gardening and urban beekeeping called "Untrodden path" in cooperation with partners such as Program of Swiss-Slovak cooperation, Urban Agriculture Basel and Bratislava Water Company. The official authorities were excluded by the organisation of this project except of the fact that the main stakeholder in the private Bratislava Water Company is the City of Bratislava. The unofficial but significant partner is also the Regional Association for Nature Conservation and Sustainable development BROZ. The beginning of the first season in community garden Vodárenská was a interplay of coincidences. A group of people has formed an idea of community gardening and was looking for a possible realisation and an organisation with a project and funding was looking for a community willing to participate. The ideology in the background is also closely related to the right to the city. The citizens need space for realisation of their ideas and the space is here, whether it's a private or public property. We just need to change our perception. Živica supported formation of two community gardens in Bratislava and one in another city in Slovakia within the scope of their project. The second garden managed by Živica in Bratislava has also an active community and it is situated on the grounds of a pensioner club.

I want to finish this chapter with the Henri Lefebvre's thought that we have to change our perception and orientate our senses away from the capitalist city that surrounds us, if we want to transform it. Mark Purcell (2013) described it as a movement toward the urban: "That movement is set in motion when inhabitants decide to rise up and reclaim space in the city, when they assert use value over exchange value, encounter over consumption, interaction over segregation, free activity and play over work. As they appropriate space, as they develop the ability to manage the city for themselves, they give shape to the urban."



## 8 Planning guidelines for community gardens

This chapter is a brief synopsis of the findings discovered by the research of the case studies discussed in this thesis

### 8.1 Values

The main aim of community gardens in the city is the improvement of the local residents quality of life. This can be achieved by following steps:

- Estimation of community garden as an important element of outside space in the urban environment, that enhances the community development, sense of responsibility for one's own residential quarter and environmental education.
- Stabilisation of existing and future community gardens by the involvement into the land use planning
- Creation of the development plan for the city districts with the inclusion of community gardening as a revitalisation tool of the housing estates
- Support of emerging community gardening projects

Community garden is a value oriented open space that isn't created by the official authority and indifferent planner, but its development is based on the needs and aspirations of local residents. The gardening gives them the opportunity to realize their right to the city and the possibility to make their neighbourhood more liveable in combination with their own vegetable production.

### 8.2 Spatial organisation

The spatial structure depends on many factors, such as the location of the garden or the idea that forms the design, but according to this research, there are some basic principles that could be followed.

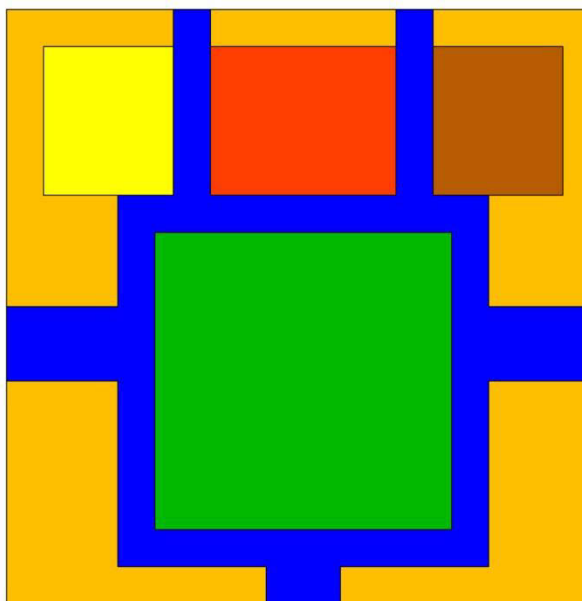
- The open space of urban infrastructure (healthcare, education and water supply facilities or railway protection boundary) seems to be the perfect location for a community garden
- Every community garden should be situated within walking distance from the apartments of the community members.
- The garden area should be enclosed and marked. The security of the garden is a wide topic but a fence is creating at least a symbolic protection. Very important is

also the support of local authorities and media in this issue - community gardening needs to be recognized as a part of urban space.

### Effective zoning

The figure 43 is displaying an abstract proposal for the zone planning in a community garden. It is based on this study and should serve as an inspiration.

1. The main activity which is mostly gardening on individual plots should be situated in the central area.
2. The place for relax - so called lounge zone, zone for storage of gardening tools and other equipment and the zone for children should be adjacent to this area.
3. The garden area cultivated by the whole community and basic infrastructure such as compost or toilet should encircle the individual plots and related zones so anybody has a comfortable access to it.



**Figure 43: Abstraction of the zone plan suitable for community gardening.** Green is the gardening area cultivated by individual gardener. Orange colour displays the area cultivated by the whole community and the basic infrastructure like compost. The lounge zone is marked with red colour. Yellow is the zone for children and brown is the storage space. Blue colour displays the multifunctional space, such as paths (Source: Own processing, 2017).

### Equipment of the garden

- Every community garden should have the seedbed for individual gardeners and possibly also some areas that will be maintained by the whole community. This could be a vineyard, orchard, berry shrubs, pumpkin patch, strawberry patch or something similar.
- Very important is the place for meetings and relax so the community has an opportunity for socialization. A couple of benches can be sufficient, but a roof against rain and hot sun is adequate.

- Without water anything won't grow so some water source is a vital resource. Collection of rainwater is also an alternative but in hot summer days it is usually not enough.
- A compost is an important element in community garden which follows the biodynamic principles.
- Some secure space for storage of the gardening tools does also need to find place on the plot.
- There is a plenty of secondary equipment displayed in the case studies, such as insect hotel, playground for kids, rockery or other, but this is just an option and it is not a must for every community garden.

### **8.3 Philosophical principles, Social organisation and Cooperation**

The community should be formed by a group of people who share the same ideological beliefs. Usually it's a natural process that takes place even 'by the way', but it is necessary to express the philosophical principles at the beginning to prevent later misunderstandings.

The ecological approach and biodynamic gardening is one of the main principles existing in a community garden. This can include a wide range of methods but all of them exclude the use of chemicals and artificial fertilizers in the garden. The community should have also some leading idea that forms the vision and future development of the whole project. This can be family oriented structure, permaculture design, cooperation of locals and school kids or revitalisation of a vineyard. Amplification of this element can have positive impact on the motivation of community members.

Another important aspect is the internal structure of the community. Internal statutes or articles of an association can serve as the basis for internal rules. It can help and prevent conflicts and improve the decision making. Usually there is a leading and respected personality, who invests lot of his time into the project. This is a good model for some time, but pending burnout can be drawn away with the division of functions between more community members.

It is a fact that all of the case studies were supported by at least one non-governmental organisation. It is important to find the partners and if there is a need, create an official subject. This can be necessary by grant application. Usually there are some organisations in the neighbourhood which already have something related to community, ecology and urban environment in their program, so it is good to contact them and look for joint solutions.

## 9 Conclusion: Empowerment of the Community Gardening

The socialism left significant traces that are remarkable even almost three decades after the transition. The development in Bratislava can be described as delayed in comparison with other European cities (Ondoš, 2008). However, this 'traces' can have hidden potential for the local citizens. The case studies explored in this thesis serve as an example of underdeveloped, abandoned space, situated within the area of urban infrastructure, such as healthcare, education and water supply facilities or railway protection boundary. The city or state doesn't have actually enough resources or interest to transform it back into its former condition or define new function for it. This situation utilized the motivated citizens living in adjacent housing estates with the support of the NGO's and official institutions.

It is impossible to create precise instructions how to plan and develop a community garden in the city, because it is mostly a bottom-up initiative and depends on many factors such as history of the location, social structure of residents and the composition of the participating community. The surveyed gardens and detailed analysis of their structures aim to inspire the oncoming projects, their initiators and official authorities. This study showed that the community gardens aren't suitable only for gardening, but they serve as a social meeting place with various educational and cultural activities. They improve relationships between local residents and help establish new communities, unfortunately they lack interest and empowerment from the municipality and official authorities.

If we compare Bratislava to the closest European capital, Vienna, the difference would be astonishing. There are more than 63 neighbourhood gardens in the Austrian capital (Gartenpolylog, 2017), in Bratislava there are actually 12 active gardening communities. Vienna promotes community gardening, enabling the city's residents to create and maintain their own green spaces even in the most densely populated districts. The Vienna City Administration supports the community gardens with the professional knowledge of town gardeners, high quality compost and one project per district can be founded with 3,600 euro (wien.at, 2017).

Vienna is one of the most productive cities in Europe and during last seven years it has been continuously rated as the city with the best quality of living worldwide (Wirtschaftsagentur, 2016). However, Vienna is missing something what is present in Bratislava and in other post-transitional cities with delayed development: The uncultivated, abandoned spaces



within urban infrastructure that are still waiting for utilisation. The bigger Austrian neighbour can serve as an inspiration for Bratislava. The city of Vienna adopted in 2014 an Urban Development Plan called STEP2025 (2014). It is based on modern urban planning in combination with the participatory planning and offers up a vision of a future Vienna. A subject-specific thematic concept "Green and Open Spaces" based on the principles of STEP2025 (2015) analyses deeper the importance of green and open spaces in Vienna's environment. It estimates civic initiatives, such as urban gardening, self-harvesting plots or even guerrilla gardening as an important form of urban greening and land use that contributes to an upgrade of the neighbourhood, sense of responsibility for one's own residential quarter, urban climate and ecology. The official authorities in Bratislava should estimate the community gardening as a part of value oriented open space planning and involve it into the future development of the city. The first step should be the security and protection of existing projects. Short lease agreements are making their situation vulnerable. Most of the participants prefer to use their plots for longer time than just one season and to develop the whole potential of the gardens stability is needed. The residents in cooperation with NGO's and local institutions in Bratislava in their community gardening projects displayed what kind of open space is actually required in the urban environment. Another issue is the insufficient space for gardening, because there are more concerned persons than the gardening plots. This will lead to the formation of new initiatives and projects in the future. The necessary assistance for them could be provided by a framework for community gardening on the level of city districts. The detailed survey on community gardens and potentials of open spaces available in every city district in combination with the creation of the specific framework could be the topic of further research.

Ondoš and Korec (2008) described Bratislava as a place of dynamics recently accelerated. The political instability in 1990s delayed the post-socialist urban development that was set in motion since the EU accession in 2004. The actual under-developed spatial situation in combination with the strong civic initiatives and cooperative institutions is creating a big potential for community gardening in the city. Let's hope that the official authorities will listen to the needs of citizens and community gardening will be involved in the actual urban planning and future vision of Bratislava.

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