Brownfield Redevelopment in the Visegrad Countries

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Introduction

There are many problems of brownfields related to spatial impacts. These are areas that have been formerly of functioning character, but after the close of production they remained non-active, consequently also facing physical deterioration of both external and internal structures. This degradation of large territories has a considerable impact not only on the area in direct contact, but also on the residential districts they are located in. They occupy attractive locations in larger urban centres, but not only are they not used, but they also have strong negative impact on the aesthetic character of the area. There are several reasons for the occurrence of brownfields however, the most common are: the transition from a centrally-controlled to a market economy, new environmental standards for industrial production in populated areas, restructuring the economic focus of the Slovak Republic, returning of the property to original owners in the restitution after revolution and subsequent disagreements between them, etc. But the fact remains that brownfields as a kind of degraded urban areas require the proper approach in order to avoid decline.

It would be inappropriate to designate brownfields only as a heavy burden. On the other hand it is necessary to be aware of their undeniable potential. Buildings and equipment in manufacturing were designed and built for long-lasting high-capacity production, therefore characterized by high volume and ward size. Design procedures and used materials must conform to their role to bear enormous burdens with effortless maintenance needs associated with good resistance to external environmental influences. Therefore, they were built by the most advanced technology of the time, which can be considered as a qualitative criterion for the further use or perception as architectural monuments. Such structures often exceed current design parameters required for the construction or residential amenity; despite the termination of the original meaning continue to represent a large and useful building stock, suitable for the needs of functions with large space requirements. Before the selection of new features, however, it must first be assessed not only in terms of physical fitness areas, but also in terms of the sustainability of proposed new activities. It is necessary to mention the influence of brownfields to its neighbourhood. There is a radiation effect of problems such as crime, unemployment and a poor image of the area, which ultimately lead to the creation of an area image perceived by the rest of city which is marked by negative experience, and isolation of these sites with their problems. Therefore, in starting the revitalization process, it is important to be confined solely to local solutions.

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1. Theoretical Concepts for Brownfield Regeneration

1.1. Brownfields as a problem of spatial development

Perception of brownfields as a problem in the Visegrad countries is closely related to the new social arrangement. A change of industrial society to a knowledge-oriented urban population is mainly encountered by many difficulties arising from the collision of the 21st century lifestyle lived on a platform created for the needs of the 20th century. In addition, these problems have a spatial manifestation; brownfields are just one of these problems. One of them is brownfields. Brownfields in the Visegrad countries originated mainly due to the loss of the function of the area or premises before transformation. Development in the Visegrad countries was based on the transformation processes in their industrialised cities and regions. Specific features of the background situation for transformation processes in the Visegrad countries can be defined by the following characteristics:

- rapid post-war industrialization,
- relatively recent industrialization and urbanization processes,
- rich tradition of specific industrial production,
- many specific industries with a highly qualified labour force,
- a high proportion of special industrial production – e.g armament industry,
- the existence of relatively compact industrial complexes with insufficiently diversified economic base,
- high dependency of the regions on a few dominant industrial works,
- combination of different initialization points as causes of transformation processes at the same time,
- combination of transformation processes in the industry with societal transformation process and the Visegrad countries accession processes into the EU,
- one-way market orientated production towards the states of the Eastern block and the Soviet Union,
- break down of the former markets,
- particular natural and socio-political features of the Visegrad countries territory: geographical position in Europe, highly valuable natural areas, dependency of industry on import of raw materials, precious historical and cultural heritage.

In addition, these problems have a spatial manifestation, brownfields are just one of these problems. Torsos of once prosperous life breathing industrial sites have become realities for all medium and large cities in Slovakia and Bohemia. Brownfields inherently arise as a result of expected industrial or other restructuring, but as the market for which originally served has a reduced ability to recycle them into another efficient use, these areas are now quite burdensome.

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Especially in the Visegrad countries we can see the biggest problems in dealing with these territories. Some of industrial cities are still dealing with this transformation, also due to the fact that "the process of transformation entails extensive conversion of physical structure, whose preparation was associated to the expansion of industrial production in peripheral respectively outside settlement positions of then cities and now they take part of core areas of cities and urban agglomerations. In contrast to the recent past, ecological, socio – economic and socio – cultural aspects of renewal process of degraded urban structures come to the fore, and in particular the transformation of former industrial areas." (Vodrážka, 2011, p. 1)

"The development of settlements is not only a process of growth, but also the spontaneous constant renewal of the settlement structure in its functional and physical nature. A part of this process is the simultaneous existence of structures in various stages of development, including stages of degradation and subsequent recovery. The problem is the structure of the original function, such as production, transport, housing and recreation, become the moment when the state of land degradation is set in such unfavourable external conditions and it cannot start the recovery process of spontaneous regeneration. The severity of this problem, not only highlights the need for intervention launching phases of the recovery from the outside (it may not always be an investment intervention), but also the impact of degradation in the entire structure of the city or country, also posing a potentially negative impacts of decline on the urban area or region as a whole. If the area (industrial, warehouse or rural area, residential district, campus or other facility services, transportation, etc. or the country territory on the surface or deep sea mining, infrastructure, technical facilities, ponds, landfills, etc.) reaches such a stage of development, we call it brown or brownfield land." (Finka, 2011, p. 7)

There are numerous definitions of brownfields and we can see difference between the American and European conception of the term. The European point of view is to see brownfields as abandoned, underused or empty territory, which may, or may not have environmental burden, where previous use without intervention was not able to succeed in the market again. What is and what is not brownfield also depends significantly on the local circumstances. What is considered a brownfield, according to one standard may be a promising venture by a different standard. It is also important to note that some brownfields can still be partially used. Although many brownfields are not used for a long time, the standard description 'underused', implies that areas in this category are not fully utilized. The land would be classified as brownfield, even if that part of the territory continues to productive use. The fact that we cannot absolutely and precisely define what is and what is not brownfields, is one of the barriers to their reuse." (Jackson, 2006, p. 9)

"The common features of brownfield sites in the Visegrad countries are:

- characterized by social exclusion and economic marginalization,
- characterized by the accumulation and mutual conditionality problems,
- often regarded as a consequence of socio-economic change and decay industry,
- face spiralling decline,

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- do not reach the standard of quality of life compared to the average of cities and regions,
- often used broadly to include unused areas.“ (Petríková, 2006, p. 29)

“The breadth and diversity of issues is documented by the definition of brownfields, which was made by the Concerted Action on Brownfield and Economic Regeneration Network – CABERNET, in which a network of European experts researched the issue of brownfield regeneration as wide cross-frame problems. According to this definition, brownfield are sites and buildings that:

- are affected by the previous function and use of surrounding land,
- are abandoned or underused,
- have real or perceived contamination problems,
- are located mainly in the developed areas of settlements,
- require intervention in order to have a beneficially use again. " (Petríková, 2011, p. 11)

“Interestingly, the most frequently types of brownfields occurring in the countries of Western Europe are areas with low-quality housing, dominating former production areas of industrial and agricultural production and transport equipment and troops. Their common feature is a combination of various aspects of degradation, which include in particular, the lack of availability and the transport service, the presence of poorly demolished relics from the past, environmental issues, fragmentation of settlement structures, weak social cohesion, and a bad image of the area. The negative consequences of the former activities are manifested mainly in their secondary projection and various interrelations. It turns out that the secondary socio-economic burdens resulting from the initial activities are often a more evident problem of brownfields than direct environmental burdens that are less complex and can be technologically removed.” (Finka, 2011, p. 8)

Brownfields can be described as abandoned or underused area which can be or need not be contaminated. It can be assumed that the areas with such structures are still available for the use, even if only partially. It is not necessary to preserve the original function. Quite often we can see such premises, where the production has already ended, but it is instead used as parking spaces or stocks. The problem of reusing this kind of territory remains the fact that the restoration process is typically focused only on the territory value after deduction the project cost and the value of the average earnings remains high on positive numbers. These sites are characterized by particularly attractive location, good transport links and links to technical infrastructure.

“Brownfields can have different forms – not just for industrial facilities or production halls, but also on many other abandoned areas or object. They can be classified from different perspectives; for example, according to initial use, size, extent of contamination, the likelihood of their use, the financial performance of their revitalization, economic attractiveness and also in terms of their location in space like:

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- **Open areas** - after an agricultural production or after extraction of surface and deep mines.
- **Enclosed and semi closed areas** – after industrial use, military, transport and technical infrastructure, after landfills housing and public amenities.“ (Petríková, 2011, p. 10)

“According to the original use we can categorize the brownfields sites after:

- **Agricultural production** – unused areas of former farms and agricultural businesses. We can expect the contamination of organic origin and agricultural machinery and mechanics.
- **Surface or deep mining** – often extremely large areas, their specificity is a millions of cubic meters of soil, located on previously searched layer of lapping material. Finally we obtain not just a devastated area but embankments as well.
- **Industrial production –** different sizes, where the production has stopped and we can see the environmental contamination. On the other hand they can have other valuable structures, which are available for attractive unusual administrative or residential space, entertainment parks, sport – recreation areas or shopping and cultural centres, after reconstruction.
- **Military –** after change of the national military codes, reduction of army corps, numerous former military objects were left they from their original use. For example barracks, military areas.
- **Transport and technical infrastructure** – technological and organizational changes in the transport and technical infrastructure and its links with other functions of the settlements affected operational and auxiliary equipment transport (oversized freight stations, sidings, terminals and depots, shipyards and ports), and infrastructural facilities too, (wastewater treatment plants, treatment & water heat exchangers and substations).
- **Landfills** - After filling the landfill capacity ideally they are restored on the surface and integrated back into the country to reduce its burden; many old dumps were not reclaimed and they threat the environment by leaking contaminated substances.
- **Housing or public amenities** - unused buildings, blocks, neighbourhoods and parts of settlements, abandoned houses, houses in the country, closed or partially used amenities (shops, small operation, repair, health centres, school grounds).
- **Others** - From a broader perspective areas included into brownfields are also abandoned buildings under construction, which is not completed for various reasons, have long been unused and negatively affect the environment and can also be dangerous.“ (Petríková, 2011, p. 11)

“Using a conceptual model to characterize different types of brownfield sites in terms of their economic viability, and pointing out how the situation may change based on the diversity in the position of the building, the cost of necessary treatment and land treatment facility, and other economic conditions may help identify strategies for improve the economic feasibility

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of building a state. Different types of revitalizing brownfield site in terms of their economic status can be illustrated by the conceptual model ABCD. "(Petríková, 2006, p. 30)

Table 1 - Types of brownfields according to the location and its general evaluation

Brownfields category	Localization of brownfields	Evaluation of aspects			
		Economic criteria	Environmental criteria	Social and cultural criteria	Urban structure criteria
Category A	Convenient location	+++	+++	++	+++
Category B	Less convenient location	++	+	+	++
Category C	Disadvantageous location	- -	- -	+	- -
Category D	Location of emergency	-	- - -	- - -	- - -

\+ strengths, - weaknesses

(Source: FINKA M., 2010,p.165)

"A conceptual model based on the ABCD project CABERNET identifies four types of brownfield sites in accordance with their economic situation (e.g. by the costs required for regeneration and according to the value of the property). Locations are divided into four categories:

- **Category A** - development projects such sites and objects are highly economic viable and most realized by the private sector
- **Category B** - projects in these areas and facilities which are on the edge of making a profit, often financed on the basis of public-private partnership or cooperation
- **Category C-D** - revitalization of these sites and objects is not profitable, depends mainly on public sector projects or governments with lower economic viability, to stimulate revitalization should be public funding or specific legislative instruments, e.g. tax incentives." (Petríková, 2011, p. 12)

"ABCD Model highlights the driving motives of brownfield regeneration. It can be used by institutions that are responsible for regional development and investment in the region, allowing them to identify appropriate strategies for different types of brownfields. Using it, they can identify the type of object and consider the factors that influence inclusion in Category A - D. Both public and private organizations can use the model to examine the possibility of intervention and recovery strategies. Using this conceptual approach to examining factors that influence change category object, e.g. from category B to category A, and may lead to the development of specific strategies for a particular case, which leads to a successful procedure. Some municipal authorities are using these categories to explore local brownfields revitalization strategies and to create informal records of brownfields in the region. " (Petríková, 2011, p. 12)

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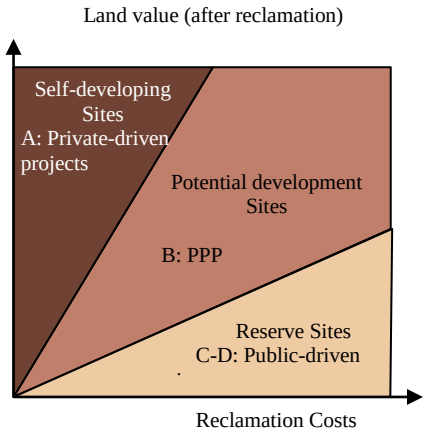
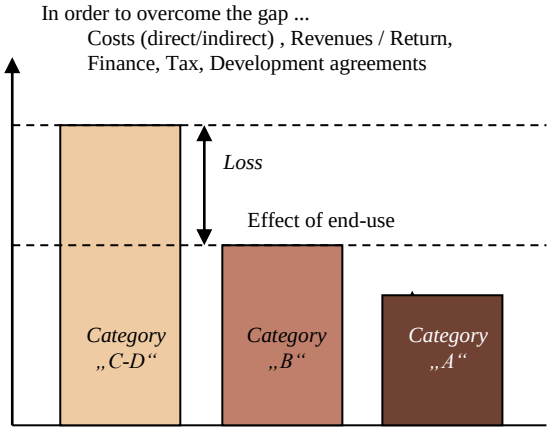
Figure 1
Brownfield type by likelihood of reuse



(Source: CABERNET project, 2006, p. 68)

Figure 2
Economic components of the A-B-C-D model



(Source: CABERNET project, in Nathanail, 2006, p.68)

An example of brownfield regeneration which can be included into the category A, are now almost all the territories of former factory in tangential position to the centre of Bratislava (former factory Apollo, cables Kablo, dairy Milex, International Women's Day - Cvernovka), where multipurpose objects Eurovea, Rozadol, Jégého alley and more were built. The majority of brownfield revitalization projects from the category B are implemented by public-private partnerships (PPP). There are just few examples like this in our country. It's restricted by low economic power of most municipalities and also low mutual trust between public and private sector. Abroad, this form is widespread; it permits the effective revitalization of brownfields that burden the environment of towns and villages, while ensuring public functions. On the other hand, they permit an effective investment of private capital to secure return on investment. A good example of such a partnership is the project "Gasometres", regenerated gas tanks in Vienna, Austria. In the categories C and D are projects usually implemented by local government and financed from public funds. These are redevelopment projects trying to cultivate the areas as an intermediate step for its further use. Examples can be transformation projects of former mining facility in the region of Upper Nitra, modrokamensky mining district or redevelopment areas after the flooding." (Petríková, 2011, p. 12)

To define the term revitalization it is possible to begin with the definition by Silhakova we complemented into the following: revitalization is a process i.e. a set of activities conducted by various subjects, which, while using of standardized procedures and specified documents (analysis, plans etc.), lead to renewal of inadequately used or undeveloped environment (Silhakova, et al., 2006). Revitalization of brownfields is based on transformation of these by using a various methods based on their character, status and goals (e.g. reconstruction, adaptation, modernization, re-cultivation, sanitation etc.) for a new use.

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2. Brownfield area regeneration process

There is a need for specific approach and sustainability of territories to revitalization of brownfields that are based on a combination of revitalization strategies and dialectic connections between the economic recession, the decline of physical environment and social stress phenomena.

During the processes of revitalization of brownfields we encounter primarily with pragmatic orientation dependent on external and internal frame processes of revitalization process and with great variance. The determining factor while choosing the strategy is foremost the financial framework of support for revitalization from external resources.

It is important to call attention to the fact that some of these are highly normative while the other display strong demonstrations of neo-liberal approach to urbanistic development. Moreover, the definition of such a system does not mean that each one of the regeneration processes of urban structures has to follow the whole structure of phases and steps in the same way (this is not the case even in practice). It is possible to practice some of the phases of this model procedure, while some of them remain dominant only depending on a specific aspect of degenerated structure or a specificity of framework situation.

The model procedure of regeneration stems from the model of "cooperative, strategic and goal-oriented regeneration process" that uses the Central Europe planning culture and the practice of regeneration of large urban areas as its starting point and at the same time follows the methodology of The Collaborative Strategic Goal Oriented Programming (CoSGOP), developed in different conditions so that it was necessary to adapt it.

2.1. Benchmarking

The techniques of benchmarking are particularly helpful:

- to define the outer boundaries of brownfield and its functional position within the city or the region through the use of scientific methods,
- to analyze the situation and to identify the key issues of the territory (pollution, partially used area, weak economic competitiveness, negative demography trends, vacant flats and houses, cultural segregation and social exclusion),
- to evaluate the situation.

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Table 2: Progression within the frame of benchmarking step in CoSGOP model

Main step	Progression
1. Benchmarking – determination of criteria and values for comparison (retrospective methods)	1.1. Analysis of problems and potentials – diagnosis (including SWOT analysis, key problems of environmental, economic and social character 2.1.1 Identification of forces for change 2.1.2 Identification of core problems 2.1.3 Information acquisition 2.1.4 Resource evaluation 2.1.5 Limit evaluation
	1.2 Analysis of stakeholders and formulation of framework for cooperation 1.2.1 Stakeholder identification 1.2.2 Stakeholders' interests identification 1.2.3 Stakeholders' capacity identification 1.2.4 Stakeholders' ability to cooperate identification

The points of analysis and evaluation can be included in the term "diagnostics". Diagnostics, in a sense of determination the context of brownfield revitalization and identification of problems as starting points to determine the focus of the process, is a crucial step in the methodology of evaluation for the process of brownfield regeneration. At the same time, it is necessary to create a complex list of emerging problems and trends on superior hierarchical levels (city level, regional level and above) which are relevant for the development on a local level in the closest period. The Cross-impact analysis is an example of technique that helps to point at uncertainties in future development predications of the regenerating territory that are often ignored or neglected. Generic techniques such as the SWOT analysis and brainstorming with experts and stakeholders might positively contribute to identification of the main problems and trends

Professional expertise and strategic dialogue should help in the process of reaching key knowledge including identification of the need for regeneration interventions and limits of the territories in a relation to their implementation. This initial phase can be called scoping and it includes reaching of an agreement concerning space and time i.e. defining of geographical territory that will be the subject of the solution, assessment of the time needed for realization of regeneration process and the budget.

From the vast amount of issues (which might be in the interest of improvement of the territory) it is necessary to propose and agree on a set of indicators and inter-related objectives stemming from the indicators of sustainable development. This can be achieved for instance by the use of professional expertise. The indicators provide a framework for which the ecological effects and the effects in the area of sustainable development can be defined, analyzed and compared, the structure necessary for data acquisition can be designed and also for the monitoring of proposal successfulness during the process and after the realization as

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well. However, during the selection of these indicators and objectives we have to take into consideration that the brownfield also has the dimension of urban district/urban borough and the lack of quantitative data. The objectives can be used as a criteria or comparative value (benchmark) in the relation that will be measured during the process of regeneration of achieved progress in the future. Techniques of analysis and data acquisition include survey questionnaires and geographical information systems (GIS). These take place through aerial photographs, satellite snapshots and other technologies. GIS can acquire and then analyze the acquired data.

Reported techniques will help to identify the quality of current initial state of environment. We can assume it from the essence of presumable future environment without strategic activities. In the end, however, all of this can contribute to a better understanding of sustainable rehabilitation issues which are essential for brownfields. Multi-criterial methods, for instance Analysis of Interconnected Decision Areas (AIDA), Analytic Hierarchy Process, Cluster evaluation or so-called Flag model might not be as effective as presumed. Analysis of degraded territory as a background for the active use of knowledge about the territory and its problems in the phase of vision design, planning and programming represents one of the main conditions for effective regeneration process.

2.1.1. Evaluation criteria

The complexity of regeneration process of urban territories is in the complexity as one of the main traits that requires wide scientific and evaluation activities concentrating on problem and potentials identification of the territory itself and external potentials and conditions identification for regeneration process. The system of criteria for territory analysis consists of four main groups, which are as follows: economic criteria, ecological criteria, social criteria and criteria of urbanistic structure. They contain following elements:

Table 3: Town analysis criteria

Economic criteria for town analysis
Local business activities
Endogenous dynamics of economy
Dependence on external investments
Investments (private and public sector)
Enterprise fluctuation (migration in/out)
Demand for small business and services
Offer for small business and services
Land value/price of letting
Starting of business
Vacant spaces for industrial, commercial and administrative purposes
Range of opportunities for local employment

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Rate of unemployment
Spatial disparity between people and job opportunities

Ecological criteria for town analysis
Local industry / household / transport emissions
Air pollution
Water pollution
Soil pollution
Dangerous waste contamination
Noise level
Decrease in biodiversity
Lack of open spaces
Lack of green spaces
Publicly available green spaces
Danger of natural catastrophe (e.g. flooding)

Social criteria for town analysis
Population change
Population aging
Mortality
Immigrant, ethnic and minority groups as a proportion of population
Social segregation level
Income level
Poverty level
Social transfer level
Health conditions
Education shortcomings
Crime level
Citizen participation level
Citizen activity level
Living costs in relation to the income
Population density in relation to the built-up areas
Flat/room occupancy

Urbanistic structure criteria for town analysis
Barriers in town view
Image / perception from outside
Image / perception from inside
Picture of the town / urban structure
Residential quality
Vacant spaces for residency + administrative spaces

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Status of building, e.g.
- renovation status
- pipeline status
- size of flats
Land / building ownership, e.g.
- varied ownership
- public ownership
- lack of renters
Amount and quality of socio-cultural infrastructure
Amount and quality of technical infrastructure

2.1.2. Diagnostics as an iterative evaluation process

In the initial phase already, the presence of decision holder who gains more consistent relationship and sense to the territory is desirable identifying the main holders of change and problems in the territory. It is also important on a given level to address the government and municipal bodies whose interest is to achieve the sustainability of rehabilitation process as an effect of plans and programs implementation. These authorities and the other experts will be able to give advice while selecting the level of evaluation, the extent of detail relevant for processing of environment impact report and sustainability of development report that at the same time represents the key output of diagnostics phase.

Various techniques can be used during identification of change and problem holders of urban structure degradation including horizontal scanning i.e. "scanning procedure" using the method of "six sectors" (social, demographic, economic, ecological, controlling and technical) to identify "macro-forces" or ""meta-forces" which are change holders on global, European and national level. It is also necessary to assign an independent team of stakeholders to realize the evaluation (that can include some analysis in order to identify the key stakeholders and their roles). The main tangible result of diagnostics phase will be the scoping report exceeding the frame of information included in environment impact and environment sustainability report which will be used during the consultation with authorities and stakeholders. This way we present capturing of dynamic process of changes in affected urban territories in discrete time. In reality, the tasks mentioned above can be realized in parallel by various persons involved. Even though it is correct that the processes of iteration emerge during the entire evaluation methodology, we have to emphasize that iterations are most typical for diagnostics phase. Given phenomenon is clearly visible while looking at the scheme showing the diagnostics process and a continual cycle that can be entered in particular points in iterative process (ad the arrows Picture 1). Several decision holders can be involved into this iterative process, for example: local bodies of government and municipalities, research institutions, NGOs, residents, but also elected representatives.

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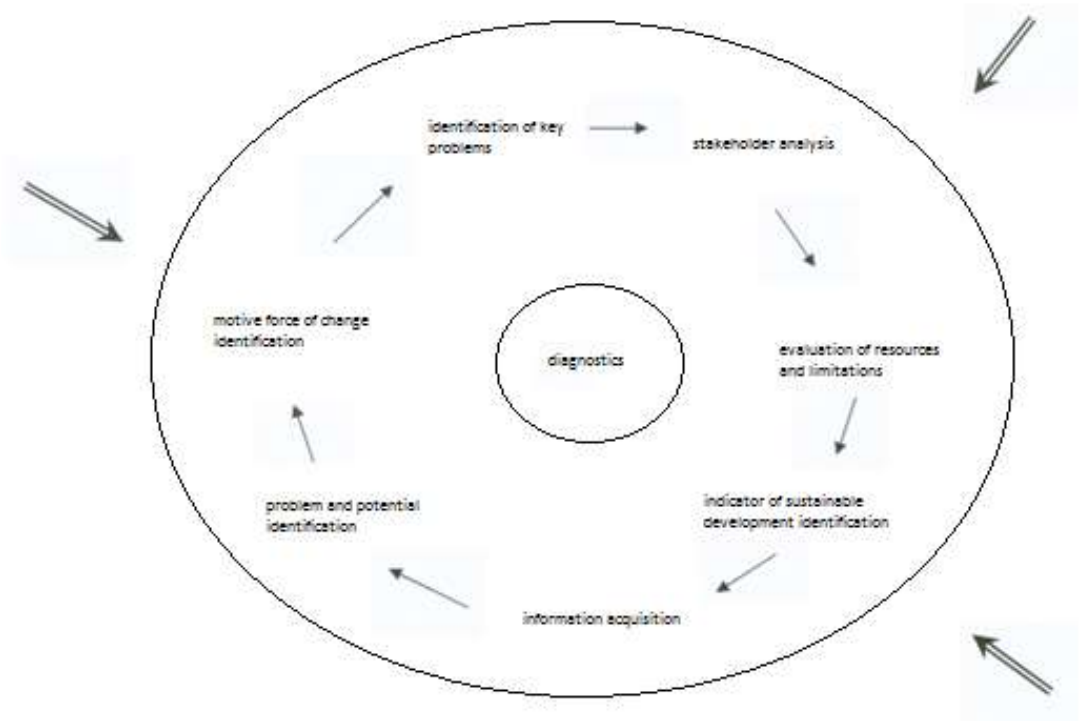
Picture 1: Diagnostics: Cycle of analysis



2.2. Vision designing

Table 4: Progression within the frame of vision designing step in CoSGOP model

	Main step	Progression
2	Vision design (prospective methods)	2.1 Objective and alternative analysis (including scenario design) 2.1.1 Expected output identification 2.1.2 Long- and short-term objective identification
		2.2 Vision design – alternatives and scenarios

The vision designing phase directly bases its objectives or alternative plan or program scenarios. It stems from potentials and reflects the limits identified in the diagnostics phase, helps to create scenarios and possible strategic concepts for regeneration processes of affected territories in accordance with their specific problems identified in the previous phase.

The amount of analyses realized in the diagnostics phase, including the description of initial status of environment and problem or potentials identification, influences the design of strategic objectives, indicators and secondary objectives. The objectives of key activities in the process of regeneration should be evaluated in relation to the framework defined by

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sustainability, i.e. by objectives and indicators of sustainable development. The objectives represent an effective means and a way of setting the acceptable limits in relation to ensure the sustainability of development and that are subsequently used to monitor all the future changes.

The objectives and focus of plan or program are taken onto consideration during the design of alternatives. It can also react on the existence of various possible scenarios in-process based on the basis of deliberation over diverse development of conditions for realization of regeneration of a given territory. The alternative visions are designed through scenario designing and organizing of vision designing seminars (which include the public) that are oftentimes a part of "workshops of future" with an objective to acquire information about the desired projection and expectations of local residents regarding the development of given territory in the future. At the same time it is possible to create a wide range of visions and ideas, however in general the objective is to create the common vision with proposals suitable for the politics based on common objectives and inherently pro-active participation. If such a consensus is hardly to be reached such workshops can provide understanding of the differences in projections and aspirations of various groups of local community which is important to create proper a proposal for regeneration process as well.

In a given phase there are also other techniques important and recommended to consider from which the most effective are brainstorming and expertise appraisal.

Various proposed alternatives are assessed from the point of view of the objective fulfillment – reaching the consensus in relation to the preferred common future vision. This is to be done in the basis of evaluation methods based of communitarian and monetary principles. These are for instance the evaluation of societal impact, cost-benefit analysis and so on. Considering the temporal and financial demand of aforementioned analyses in this phase it is preferred to use the expert capacities within the frame of workshops to facilitate the consensus reaching process on common priorities and subsequently the process of first-stage selection of possible vision alternatives. This, however, brings the threat of excessive influencing of local community by expert opinions which, at the same time, provide different views on the regeneration process.

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2.3. Prediction

Table 5: Progression within the frame of prediction step in CoSGOP model

Main step	Progression
3. Prediction (prospective methods)	3.1 Planning 3.1.1 Plan preparation and harmonization of interests(including harmonization of common objectives, defining of priorities and strategy preparation) 3.1.1.1 Mediation of interests among stakeholders 3.1.1.2 Definition of joining objectives 3.1.1.3 Definition of joining priorities 3.1.1.4 Designing of alternative strategies 3.1.1.5 Evaluation of strategies 3.1.1.6 Plan preparation
	3.2 Programming of plan operationalization 3.2.1 Formulation of program and negotiations (defining of activities, means, assumptions, indicators and inputs) 3.2.1.1 Defining of activity implementation plan in alternatives 3.2.1.2 Identification of necessary input for certain activities 3.2.1.3 Identification of available resources for necessary inputs 3.2.1.4 Identification of relevant stakeholders for selected activities 3.2.1.5 Negotiations among stakeholders 3.2.1.6 Defining of priorities 3.2.1.7 Defining of pilot project 3.2.1.8 Action plan proposal – development of plan operationalization development and harmonization of selected activities with defined system of relations (activities coordinated in time, space and content) 3.2.1.9 Defining of progress indicators

In the processes of brownfield regeneration the planning and programming phase represent the part with the most intense usage of evaluation methods. This program includes a range of activities aimed at betterment of physical structure, , social and ecological quality of affected territory and usually consists the proposal of smaller amount of alternative scenarios

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that subsequently have to be evaluated in relation to their positive or negative impacts and expected cumulative effect with using of numerous methods and techniques among which usually dominate the following: cost-benefit analysis, environment impact assessment and social impact assessment supported by techniques using GIS. As the quality of life is an integrating quality in relation to the changes in degraded urban territories, the evaluation of impacts of proposed regeneration activities in partial areas have to end into the changes of quality of life evaluation.

The required changes in the quality of life always depend on the affected social groups in a given territory, especially regarding the subjects profiting from realization of whichever alternative of regeneration program or are negatively affected by it. During the comparison of alternatives it is possible to use the methods of multi-criteria evaluation, flag model, process of hierarchical analysis or different methods that enable regarding a large amount of various aspects and are based on techniques determining the weight and significance of evaluating factors.

The output of evaluation process in the phase of planning and programming is not just selection of preferred alternative implemented in form of action plan. The objective of evaluation is also a proposal of measures maximizing the positive effects of planning activities, ensuring their sustainability and minimizing the possible negative consequences of realization of activities.

Evaluation processes on this phase have to ensure primarily an active participation of local public representatives, politicians, private sector developers, lesser of planners and projectors that are, however, still intensively involved in preparation of projects, programs, technical maintenance, preparation and processing of evaluation results and so on. Citizens, which should be informed, do not have to actively participate in this stage of evaluation process provided that evaluated alternatives are in line with reached consensus in the phase of vision design. However, while there are by realization of regenerating processes potentially disadvantaged groups, it is proper to use these and involve them into the evaluation process to minimize the negative impacts on their quality of life or their entrepreneurial interest.

2.4. Implementation

Table 6: Progression within the frame of implementation step in CoSGOP model

	Main step		Progression
4	Implementation (methods of project management), implementation of proposed measures, realization of	4.1	Realization of action plan – implementation of proposed measures, realization of programed activities, coordination of activities and measures among relevant subjects in real time and space

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	programmed activities, coordination of activities and measures among relevant subjects in real time and space	4.2 Aggregate management of land use

Implementation is evidently the most important and most active phase during which the brownfield regeneration process itself is being realized. However, there is the smallest amount of methods and techniques in this phase. This phase includes primarily the realization of a range of projects, physical rehabilitation of territory and buildings, social and economic measures, development of education and skillfulness and support of entrepreneurial activities as well.

The methods of the so-called ex-ante evaluation (expected effects evaluation) applied in the phase of planning and programming in implementation phase subside in the position of building impact on environment assessment connected with realization of concrete partial activities and optimizing of their effects on environmental, economic and social level. At the same time though, the methods and techniques aimed at evaluation of existing immediate and long-term effects of realized activities enter the evaluation process, their monitoring that is a separate phase of regeneration process. All the stakeholder groups should be involved in program and project realization. Politicians are the holders of this process, private sector investors, mainly developers have a say at decision-making about the key projects and urban planners and managers are the executive powers. Service providers are and will be the key subjects for sustainability of territory development management, properties and resources.

2.5. Monitoring

Following the implementation phase or during this phase is the monitoring phase that consists of several steps as well. Step of program implementation monitoring explores and evaluates the implementation process, its feedback including strategic environmental assessment. Within the frame of this phase the first activity should be the monitoring system proposal that enables comparison of actual results of realized strategic actions with expected impacts so that the created problems are identified and solved in the most objective way and also that the acquired basic information to navigate the whole process to be done in the most complex way in a sense of successful finishing of the process and sustainability of the results.

Table 7: Progression within the line of monitoring step in CoSGOP model

	Main step	Progression
5	Monitoring and adaptation (retrospective methods)	5.1 Monitoring of program implementation (examination and evaluation of implementation process and feedback including strategic evaluation of environmental impacts and ex ante evaluation)
		5.2 Monitoring of sustainable development (sustainable development appraisal)

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	5.3 Modification of strategies considering the results of monitoring

Monitoring should be conducted by using the indicators / objectives selected to describe the initial situation in the brownfield territory and then for benchmarking.

The final phase of monitoring includes also the ex-ante evaluation where the effects of regeneration activities in the territory as examined in order to evaluate the effectiveness and efficiency of regeneration program regeneration and its partial activities including the sustainability potential of acquired effects for a long period of time. The main objective is to generate and distribute the knowledge and examples of successful activities based on the experience with realization of measures and project generation all of which can be instructional for projectors and politicians. Some of the aforementioned techniques, such as cluster analysis, expert assessment and SWOT analysis might be utilized within this process.

The problem of monitoring and evaluation processes is in the reach of these processes going beyond the boundaries of affected territory for instance in relation to determining the cumulative effects. Moreover, the dimensions of large brownfields exceed the boundaries of large administrative and governance units that, as a rule, are statistics units and all of this makes the identification of the effects of regeneration activities themselves and evaluation of the effectiveness harder.

Whereas the monitoring process is realized at the position of expert help of professionals, the holders of political decisions and, above all, affected citizens have particular position within the evaluation process.

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3. The Concept of "People, Places, Space, Environment"

"In addition to the economic and environmental aspects of the revitalization of brownfield sites, social and cultural aspects also play an important role in the success of brownfield revitalization projects. For incorporation of the social and cultural dimensions of sustainable revitalization it is necessary to:

- identify targets in the social and cultural sphere,
- define responsibilities for the implementation of these objectives,
- analyse the costs and benefits arising from the inclusion of these objectives into the revitalization scheme of brownfield sites,
- find or develop the specific tools that can be utilized for the implementation of these objectives (specific policy direction, regulations, detailed methods of social participation, creation of new coalitions, fiscal measures, the improvement of skills and education, etc.).

The concept of People, places, space, environment integrates into the process of revitalization requirements of the physical environment directly with revitalization requirements for the social and cultural environment. It is based on 8 goals, 4 of which relate to the social needs of people as future users of revitalised sites and 4 concerning the qualitative aspects of space that occurs after regeneration. These are set to help navigate through the requirements for social and cultural aspects of the revitalization, but in a real process of revitalization are these goals overlap and need to be in the revitalisation projects combined." (Petríková, 2006, p. 31)

One of the main problems in the development of distressed urban areas is a question of keeping or destroying present structures due to their local cultural heritage and memory of the place. Experience from Europe tells us that, in particular for larger territories that in new development plans absent private culture and social identity. The objectives oriented to the community and its social needs should be directed to the protection of culture bound to local communities, to ensure opportunities for education and skills appropriate for the proposed development, thereby to promote social equity in developing specific functional sites. It is necessary to achieve the same level of continuity between the past and the existing cultures and the needs of the new development, which bring with them new opportunities for social and cultural development.

"Brownfield sites – given its appearance – often have a negative image in the eyes of the public, which often can mean a negative image for the entire quarter, especially if creation of brownfield is accompanied by a loss of employment and increase the rate of unemployment in certain neighbourhoods. Such a negative image is then an obvious obstacle to the revitalization of brownfield sites, but also the revitalization of whole districts territory. " (Petríková, 2006, p. 33)

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The objectives oriented on quality aspects of revitalised areas is the key factor in the improvement of reputation and image of these territories in the perception of external, but mainly of internal users. These will work and live here, and so among them is bound to build a sense of cohesion with the given area.

Another common occurrence with which it is in the context of brownfield sites we encounter, is the negative impact of abandoned sites and buildings on the surroundings and neighbourhoods. The risk is mainly an opportunity to reverse this negative image of the surrounding housing estates, which would ultimately lead to environmental and social decline across the region. In this case, the solution is to support temporary functions and functions of softer usage of sites and structures, where we expect revitalisation. Examples from Germany and Great Britain are showing that by improving the look of abandoned areas, for example in the form of exhibitions and landscaping, it can be quite simple to improve the image of the brownfield site pending a comprehensive revitalization.

"In the process of deciding on the appropriate use of territory and urban design for the territory of brownfield sites is, therefore, necessary to take into account the local district and the potential impacts of the revitalization on its territory and population. This is particularly important because the territories of brownfield sites are often historically closely linked with their surroundings and are found in the densely populated urban neighbourhoods. The challenge in the field of revitalization of brownfield sites lies in the fact that it is necessary to ensure a balance between the necessary change and continuity of the existing community. It would be a big mistake to incorporate into development plans only formless architecture and design. Sustainability in this context means that it is necessary to define an appropriate function of land use and urban design that allows for social, economic and environmental benefits and synergies, both for the territory as well as for the community, and at the same time minimising or compensates adverse consequences" (Petríková, 2006, p. 34).

Especially important is the interaction with open public spaces in the form as follows:

- creation of paths as a communication axes and squares as a places with higher concentration of pedestrian movement,
- creation of interlink with the existing structures in surrounding area,
- divide the area with nature borders, such as greenery volumes or water elements,
- beautification of structures through greenery (vertical garden on the walls of parking house and administration building).

Last but not least it is necessary to take care of landscaping that brings aesthetic values in the area with its greenery, park and water and other interesting elements that attract residents and other people to spend time there and motivate their involvement in revitalization of the neighbourhood.

"These objectives mainly concern the process of participatory planning, which reveals and integrates the interests, ideas, and concerns of the population that lives in the neighbourhood.

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It also contributes to the high acceptability of the project, which may be essential for its implementation.“ (Petríková, 2006, p. 34)

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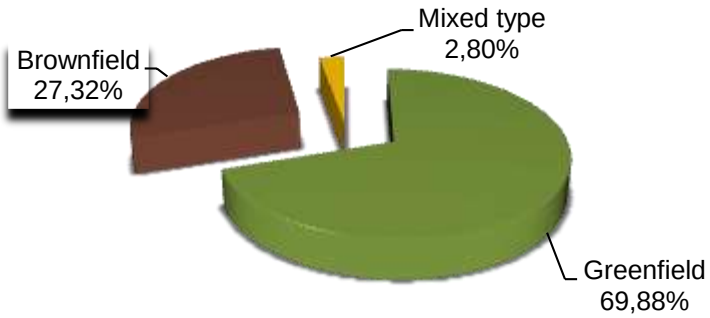
4. Interventions, Management, Capacities

It is possible to recognize three basic methods how to treat the brownfields:

- uninterrupted gradual process of degradation without anthropological intervention,
- disposal of construction objects and replacing them with new structures,
- revitalisation, regeneration, redevelopment.

In short, consider the pros and cons of each scenario. Let's start with probably the most frequently occurring phenomenon in the issue of brownfields, Ignorance or an effort to preserve the status quo. The public simply got used to their presence, neither the city nor the owners do seek transformation or reuse. Instead, new investments are allocated to greenfields. The advantage of this action is that the developer is not compelled to demolish or otherwise adapt the land to his intent; the purchase in general is easier because the owners are united in their effort to sell and this intent is not met with resistance by the "neighbourhood" as in case of brownfields. The negative consequences of such proceedings are expansion of the urban area at the expense of agricultural or forest land and requirement of new infrastructure, which have a bad landscape impact, dependence on the individual car traffic, etc. We can notice that while the benefits accrue to the investor, the disadvantages have impacts on the whole society. It should be the task for the government authorities to motivate investors to invest in this kind of territory, using the tools that will help weigh the benefits of investment on greenfields. But the reality teaches us that a green meadows or greenfields are preferred to brownfields. Tables of Slovak investment and trade development agency prove this fact.

Figure 3 – The Industrial parks in the Slovak Republic



(Source: Slovak investment and trade development agency, 2011)

As illustrated by Figure 3: The industrial parks in the Slovak Republic, with a total area of 3684 ha, almost 70% is allocated to greenfields, more than 27% are revitalised old industrial sites and a bit more than 2% are called mixed types. This means that part of the territory is made up of brownfield that was territorially enlarged by connecting more of the new territory.

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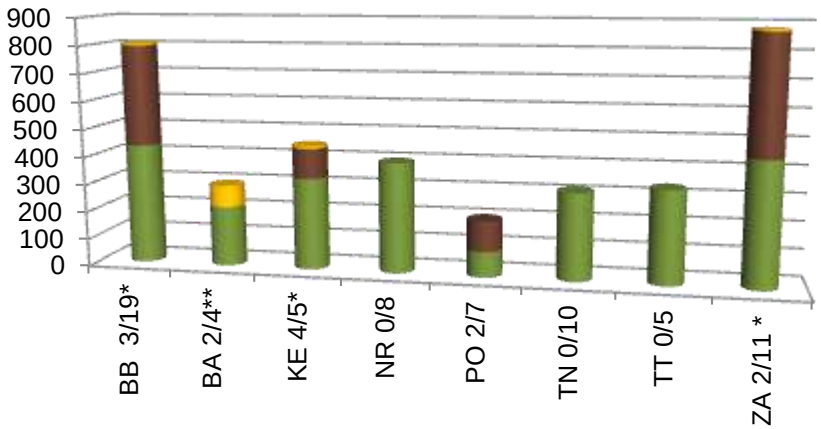
Figure 4 – Industrial parks according to region



(Source: SARIO, Slovak Investment and Trade Development Agency, 2011)

Figure 4: Industrial parks according to region, complements and refines the previous Graph 3 - Industrial parks in the Slovak Republic. We can see that 69.88% of all industrial parks, representing a total of 2574.5 ha are divided between 56 industrial parks on greenfields. The total number of brownfields is 8, of which one is being wound up. They are on an area of 1006.5 ha. The number of mixed industrial parks is five and takes up 103 ha. Revitalised brownfields are most extensive in the Banská Bystrica Region, the industrial park of ZSNP in Žiar nad Hronom and in the Žilina Region the Industrial park KIA in Teplička nad Váhom.

The second possible way of regeneration is the discarding of existing buildings and building of new structures. In such cases, it is possible to make use of at least the technical networks of distribution and basements of buildings. The downside, however, tends to be an extensive increase in the initial investment because of demolition works and also possibly the cataloguing in the register of cultural or industrial monuments, which can complicate the intentions of the investor.

From our point of view the most appropriate way is the regeneration of this kind of territory, using existing structures. It must be remembered that the building objects of which we speak, were built with the prospect of extensive and challenging the use of vision for a long time, which have been adapted to the materials and the then building procedures. Their life span, if we assume that they were not distorted by the influence of external forces, is therefore very high. The same, internal proportions of the structures have, for the most generous dimensions, skeletal carrying system, high ceilings, giving a high variability of the disposition of the area and thus a new term of usage.

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The investor is usually limited only by the valid master plan; however, this can be modified under legislative building code by using the amendments tools. But even here, there may be some administrative obstacles.

A key instrument for the successful management of brownfield regeneration is the integrated action plan, in the form of the package of measures to affect the management of brownfield regeneration in the areas of planning, information, organization and cooperation, funding and budget, marketing and arrangements.

"Integrated action plans are highly implementation-oriented. They cannot and should not replace current planning, instead the measures depicted in the action plans should be combined with spatially relevant formal and informal planning or existing sectorial planning and concept planning. One of the most important benefits of action plans is that they provide a framework for transparency in decisional processes, flow of information and improved communication structures.

The integrated action plans for brownfield regeneration are informal instruments, which establish the management of brownfield regeneration processes on a short and mid-term basis. The plans result from discussions among stakeholders on land use policy aims and incorporate outcomes from various analyses of existing local, regional and national management instruments and consider spatial and organisational shortcomings. The action plans help to unify the interests of various stakeholders and help to set up common goals, identify measures and funding sources, which would lead to the fulfilment of the identified goals. The action plans also allocate responsibility and budgets for realising these measures. These measures are closely linked with established instruments of formal and informal spatial planning. However, the action plans also list stakeholder responsibilities, aspects of organisational and management processes, as well as performance reviews and a time schedule for implementation" (Zúbková, 2012, p. 93).

Preparation of an action plan for brownfield regeneration is a process which leads to specific packages of measures necessary for the short and mid-term timeframe to make progress towards accomplishing the policy aims of sustainable urban and regional land use. The action plans can be implemented or initiated locally or regionally. The action plans cover various scales of operation, from a site-based plan to a regional plan.

"In the process of brownfields regeneration may be applied a different strategic approaches depending on the character of the degradation, its causes the contexts of the regeneration process. In the absolute majority of cases, however, this is a pragmatic orientation, which uses a wide variety of approaches depending on the external and internal conditions of the process of brownfield regeneration. It seems that the key factors for the choice of regeneration strategies are primarily opportunities for obtaining financial support for its implementation from external sources and also the regeneration costs. A significant factor for the choice of strategies, particularly with regard to the financial model of activation public and private sources, is the relationship between the base and the expected value of the

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regenerated site and the costs necessary for the regeneration. Depending of this relationship we are talking about:

- **self-financing regeneration** - this is an interesting object of the private investment,
- **regeneration on the basis of PPP projects**, i.e. projects for the participation of the private capital and public funds,
- **regeneration**, which in view of the public interest and financial unattractiveness for private investment must be **secured from public resources**." (Finka, Jamečný, 2010, p.39)

"Strategies in the process of regeneration are represented by a wide range of applied strategies or combinations of strategies in two different problematic levels:

- **processual strategy** related to the process of rehabilitation,
- **substantial strategy** related to the content of rehabilitation.

The processual regeneration strategies include:

- **visionary oriented strategy** aimed to achieve brownfield development defined in the vision,
- **strategy oriented to meet the needs** of the community, aimed to compensate deficits perceived by the community, solving the identified needs in their dynamics,
- **strategy oriented to exploit potentials** based on the valorisation of the local potential of the brownfield,
- **interaction oriented strategy** or access oriented strategy that understands members of the community, internal and external stakeholders as active bearers of change more than passive users or clients,
- **adaptive strategy** aimed at maximizing the use of feasibility of renewal activities given by social and economic environment.

The substantial regenerative strategies include:

- **Compensation** - based on the reimbursement of the original structures by new structures.
- **Adaptation** - based on the protection of the original substance (social, functional, physical).
- **Completion** - addition of an existing functional or physical structure in accordance with identified gaps and requirements for a new quality of life in the addressed territory.
- **Reconstruction** - renovation of existing structures with a special emphasis on maintaining their highest qualities, reparation of mostly existing physical structure

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(e.g. building). It might be a simple reparation of previous state while keeping all the architectural elements in original form so just a simple substitution of deteriorating / devalued parts of the object (Kynclova, P., 2009, s. 19)[5], but also more extensive restoration with emphasis on preserving the quality connected with reconstruction of original urban quality of space and new physical structure,

- **Modernization** - increase the quality of services through the interventions which are increasing the value of existing structures by implementation of innovations,
- **Humanization** - comprehensive strategy aimed at the revaluation of the structure in the direction of improving the quality of the environment." (Finka, Jamečný, 2010, p.40)
- "Regeneration is restoration and maintenance of existing structures in order to once again achieve the original standards. It is often connected with clearance of inappropriate parts and improper use finding a proper functional use in the presence." (Silhakova, et al, 2006, s. 27).
- "Conversion can be understood as a new, mostly functional use of remaining objects (physical, urban subjects etc.) that lost its previous function. Conversion is considered as specific mainly by the fact that the building program is not defined in the advance and that it operates with existing urban structure.
- Re-cultivation means introduction of affected territory into such a state that it can operate as a self-sufficient ecosystem." (Kynclova, 2009, s. 19).

In relation to the regeneration strategy can be applied different organizational solutions – ways of management of regeneration processes:

- Management realized exclusively by local government
- Management realized by the local administrative authorities, aimed at coordinating regeneration strategies, carried by various public and private stakeholders
- Management realized by special unit – e.g. Development agency witch jurisdiction has been transferred from a public body
- Management realized by a joint institution – subject based on the basis of public private partnership
- Management realized by public investor with cooperation of other stakeholders
- Management of the only „exclusive" developer

The chosen organisational solutions, respectively modes of management of regeneration processes, imply different combinations of instruments, such as passive and active financial intervention:

- passive financial interventions,
- advantage for investors,
- tax tools (local taxes, income tax),

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- active financial interventions, in particular through public, private or public-private investments.

A specific form of the regeneration process, in which aspect of the conservation of the industrial heritage is accentuated, is given by the few areas of the determinants. The important role among them is played by the legal environment determinants. These factors include:

- limiting action on regenerative strategies,
- process side of regeneration,
- financial modes of regeneration,
- decision-making processes,
- responsibility for management.

The role of legal aspects in the brownfield regeneration process can be displayed by comparing the situation in the Czech Republic and in the Slovak Republic. The Czech Republic facing the problems with old industrial heritage implemented a set of legal instruments, framing the brownfield regeneration processes. This allows more active interventions by the state to facilitate these processes, to focus financial and other sources on defined priorities and with this to achieve much bigger progress in brownfield regeneration than in the Slovak Republic, where the legal environment has not reflected the pressing problem of abandoned old industrial sites yet.

As shown by experience, legal, environment, lack of confidence and the practical experience confining most of the cities to enter opportunities of PPP. Cities often do not have other forms than the PPP, which would allow them to search for common financial security of regeneration and preservation of industrial heritage.

"Regeneration and redevelopment of brownfield sites in the cities of the Czech Republic will require substantial resources over a period that must be measured in decades. For several Czech cities, brownfields are of such a scale and impact that substantially influence their urban competitiveness (Ostrava, Prague, Zlín, Ústí nad Labem, Brno, Kladno and Liberec). However, brownfield regeneration can make an important contribution to local economic development and to addressing key social and environmental issues, particularly in regions where there is high unemployment – hence supporting brownfield regeneration by public and private funds makes sense". (Jackson, Vojvodíková, 2012, p. 105)

In spite of several EU operational programmes possible to use in the Czech Republic for brownfield regeneration "the majority of sources for Czech brownfield regeneration financing came, and would have to keep coming from private investors. The role of the public sector and local governments is to use their unique regulative powers, local leadership position and if needed also to "seed" finance, to remove barriers for private sector investment. However, experiences have frequently revealed that lack of financing is not the main barrier for brownfield reuse. The main barriers to brownfield reuse are: lack of local leadership,

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insufficient vision, low level of development skills and lack of stakeholders´ cooperation". (Jackson, Vojvodíková, 2012, p. 105)

The public sector plays a dominant role in the position of organizational interventions on a much broader scale, in particular by:

- Organizational support aimed at the preparatory phases (creation of vision, planning, programming).
- Mediation of different interests in a given territory.
- Coordination of the various stakeholders activities.
- Use of various forms – modes of organisational support, e.g. concept of sophisticated decentralized management, concept of sophisticated centralized management.
- Ad hoc project-oriented even programme-oriented organisational support.

The public sector has, in addition to organizational interventions, available virtually exclusively legal interventions (restrictions, norms) of different categories, such as:

- **partial measures** – restrictions, norms, orders, regulations, etc.,
- **comprehensive regulatory** measures – planning documents, planning regulations, decisions within its own process of urban management from government position,

and it is in the form of:

- **spatially targeted measures** - unique measures for the troubled territory
- so called **filtered activities** – through general measures for city, region or a state." (Finka, Jamečný, 2010, p.41)

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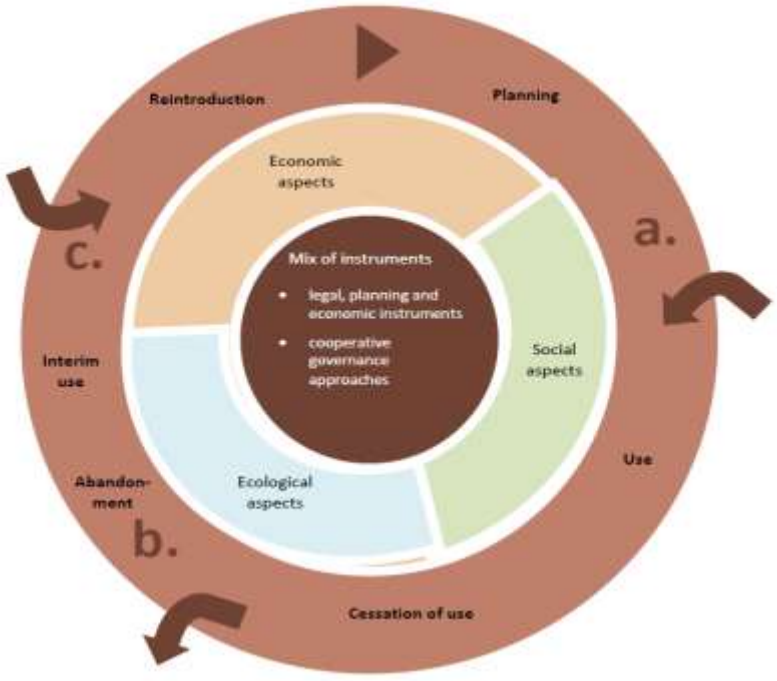
5. Approach to Avoid Brownfields

A new approach to regeneration has been developed in the project Circular Flow Land Use Management, acronym CircUse. It represents a strategic approach to sustainable management of the territory. The project is being implemented in the framework of the Central Europe project, co-financed by the European regional development fund, and is a collaboration of 12 partners from 6 countries. Among them are the different cities and regions (Trnava, Asti, Piekary Slaskie, Ústí nad Labem) the Voitsberg and Middle Saxony regions, but also institutions such as the German Institute of Urban Affairs, the Austrian Environmental Agency, the Polish Institute for Ecology of Industrial Areas, and the Czech NGO the Institute for Sustainable Development of Settlements (IURS) and the Spectra Centre of Excellence, operating under the Slovak University of Technology in Bratislava.

The CircUse philosophy is visualised in the above figure, showing land use as a cycle with three major land potentials:

a. **zoning** new "greenfields" (to minimalize),
b. **rejection** of land not suitable for subsequent use,
c. **activating** land potentials (to strengthen),
   - brownfields (industrial, commercial, military),
   - gaps between buildings in internal areas,
   - urban renewal sites,
   - sites under going planning.

Figure 5 – Phases, potentials and tools of circular flow land use management



(Source: CircUse – Poster, 2010, p.1)

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Through the CircUse project the participating partners are solving problems that are faced in the long term, substantial and uncontrolled urbanization, the current economic crisis and the effects of demographic change. These factors cause improper and unsustainable approaches to the use of the territory. Such approaches are characterized by high demands on the land, soil and energy, which ultimately cause the acceleration of processes and the effects of climate change. The partners will jointly develop and implement more economic concepts of land use that will be in accordance with new instruments and pilot actions, and will be presented in the form of model examples demonstrating how identified problems can be solved.

"Objectives of the CircUse project:

- promote sustainable forms of land use,
- reduce the cutting of non built-up area,
- increase private investment in already urbanized territories,
- coordinate public investments and financing,
- coordinate investments into greenfields, greyfields and browfields leading to the effective cities through land-use planning.

Tools and outcomes of the project will be featuring:

- database of areas suitable for development activities,
- maps oriented on sustainable land use management,
- strategies of an integrated approach to recycling land use management,
- an action plan that supports sustainable land use,
- pilot projects." (CircUse – Poster, 2010, p.1)

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6. Strategic planning system as a context for revitalization process management

Socio-economic strategic planning is a component of a complex of spatial planning activities. It represents a system of spatially relevant planning activities of strategic integrative character aimed at area of complex social and economic development of urban subjects on the level of municipalities and their districts, micro-regions, regions and state. It integrates in itself and spatially defines interests of economic and social development of various public and private subjects in a given territory. It integrates in itself and spatially defines interests of economic and social development of subjects on a given territory of urban subject (municipality, region, state).

Within the Slovak legislation the issues of socio-economic strategic development planning of urban areas is included within the framework of regional development complex that should ensure the optimization of economic, social, ecological and spatial aspects of development on the level of strategic socio-economic planning. These spheres are currently guaranteed on national level by the Ministry of Construction and Regional Development, on the regional level by regional bureaus and higher territorial units/ regional government and on the local level by municipalities. The regional development support consists of policies and programs implemented through projects. The Program of economic and social development of municipality is the basic program document of regional development support on a local level. It refers to corresponding strategic documents and program documents of regional development support on national and regional level. On the national level it is mostly the Slovak national strategy of regional development and on the regional level the corresponding program of economic and social development of higher territorial unit. Besides sectional socio-economic planning activities in relation to regional politics planning in partial areas is ensured by government ministries.

Socio-economic development plans and strategies of municipalities and regions as urban subjects are the basic instruments of socio-economic spatial planning and should be the basic component of assignment for the corresponding urban planning documentation development. Whereas urban planning in Slovakia has an established system of methods and instruments in legislation, socio-economic strategic planning is defined only within the frame of regional development code and is realized as a system on non-formalized planning instruments and methods which considerably weakens its efficiency.

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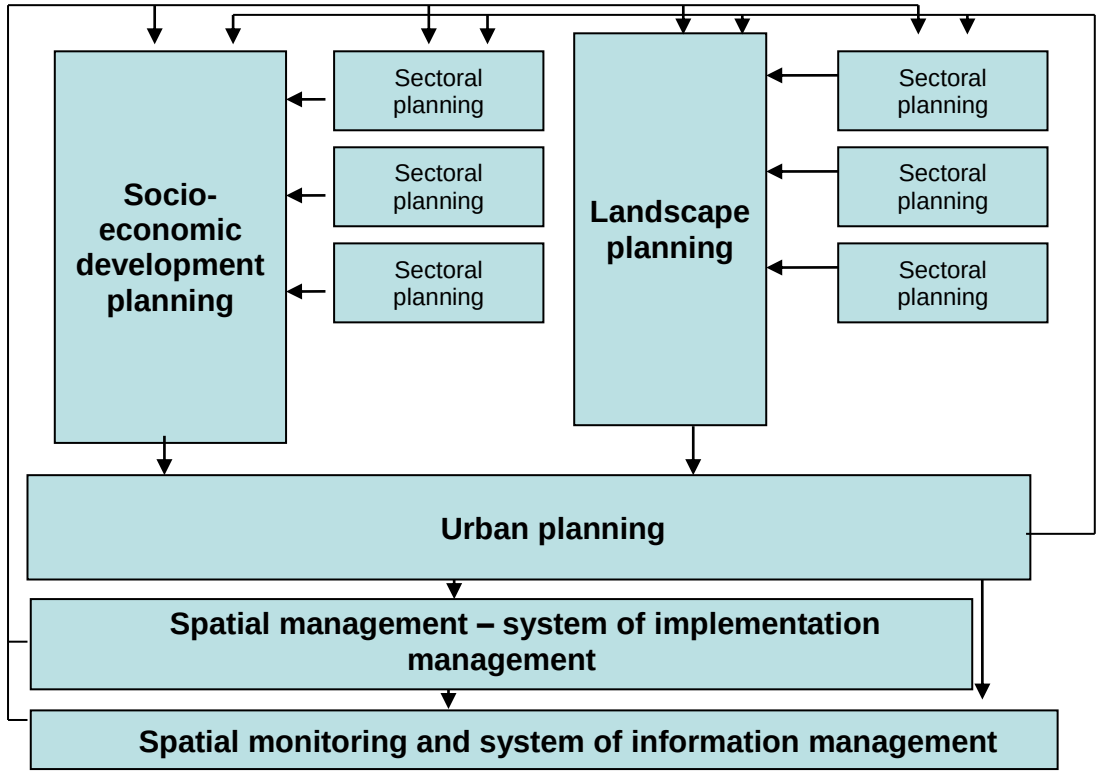
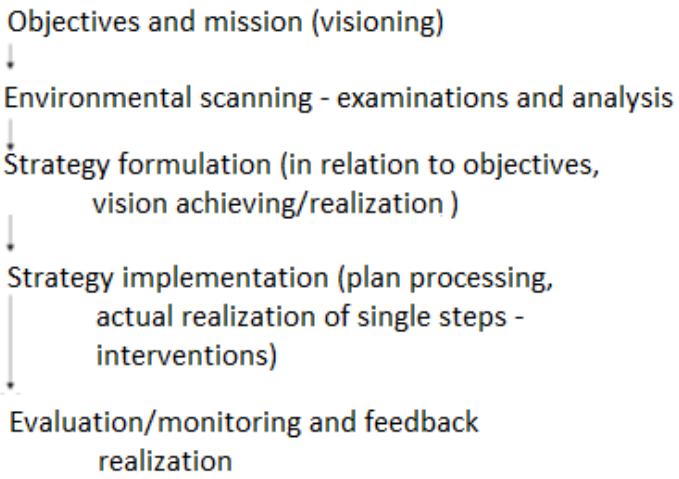
Figure 6: System of spatial development management



6.1. Strategic planning of urban subject development support

Planning procedures emanating from program of management of American metropolises in Stanford Institute of international research became the conceptual background of strategic planning of urban subjects. The strategic planning was implanted during the 80ties in 20th century and became the basis of planning activities on a local level and during the formation of town development (especially in the USA and in the UK). In general the process of strategic planning of urban subjects can be described as follows:

Figure 7: Strategic planning process



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Design and realization of strategic planning of urban subject development support is a process representing set of joining activities leading to fulfillment of previously defined and hierarchically aligned objectives that is demanding in regards to coordination of individual activities related to planning, realization and evaluation of activities financed from public resources. This process consists of cyclically repeated steps: analysis, defining of objectives, project realization and evaluation. Single processes of strategic planning are mutually intertwined, their single steps complement each other and create a closed system. Naturally, each one of the strategic decisions is a result of consensus among the partners (stakeholders) that is preceded by complex analysis and the key task is the feedback that is obtained by subjects responsible for planning process management.

Strategic planning of development support consists of process of programming (analysis, defining of objectives, financial plan design, organization scheme description, program document approval, process of design and submission of project proposals), financial management (collection of applications for payment, expenditure certification and approval of application for payment, realization of payments to the support receiver, estimate of essential financial resources and refunding of resources) and monitoring and evaluation (monitoring, economic analysis, financial analysis and evaluation/synthesis) that are of crucial significance. There is a following set of principles relevant for process of programming: concentration, partnership, planning, complementarity, monitoring, subsidiarity and solidarity. Concentration of activities on key problems solvable through available resources, partnership in the responsibility in consultation process, planning of long-term tasks, complementarity of financial resources, monitoring through monitoring and evaluation, subsidiarity during the decision-making and responsibility and solidarity among individual structures.

6.2. Socio-economic development management of local level and its subjects

Socio-economic development management of local level (municipal level in Slovakia) is a complex issue and interferes into all the relevant aspects: socio-economic, natural-environmental and technical-territorial. Between quality management and municipal development management and national governance system as a whole there is very narrow, oftentimes hardly limited, connection. Municipal territorial development is in a narrow relation with frame conditions existing in Slovakia. Even though Slovak Republic suffered and still suffers a lack of state management as a whole, what markedly influences frame conditions for lower levels of governance, it is important to emphasize that not even municipalities effectively and sufficiently use what the legislature and economic conditions allow them to.

The governance model in Slovak Republic supposes territorial identicalness among the bodies responsible for territorial governance (and therefore town management) and planning documents, i.e. on a local level (municipality) the elected bodies (mayor, authorities) are responsible for territory development and keep at their disposition the planning, decision-

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making, economic and personal instruments. The same principle remains the same for regional and central level.

Territorial and socio-economic management of municipal development follows one basic objective that is the growth of quality of life of its citizens and its sustainability. The quality of life, however, is not easily definable indicator. It cannot be defined by the rate of salary, possession, clean air, safety, high-quality of provided service. It is about achieving certain level in all the components of life of citizens in the city. The growth of quality of life requires increase in the quality of environment and economic growth, development of technical and social infrastructure, increase in competitiveness in regards to other municipalities in Slovak Republic and in Europe as well, municipality image enhancement and related high-quality city politics and municipal management including territorial development management.

By equalization of property relationships but also by privatization and restitution in Slovakia, the conditions for application of various instruments for municipal development management have changed. Up until 1989, the planning mechanisms and regulation measures were the main instruments for municipal development. In the last decade the availability of land and property ownership becomes a significant instrument of town development.

The following are the principles of town management according to the European charter of towns:

- Town management and development planning have to be based on maximal awareness about characteristics and particular specifics of town.
- Local political decisions should be established on the basis of town and regional planning executed by teams of professionals.
- Political decision-making, the final phase of decision-making process, should be effective and transparent.

Governance management of municipal development and sound political decisions have to emerge from high-quality, professionally prepared plans elaborated by teams of experts. Ideally, these teams are essentially employees of the municipality and only in particular cases work with externalists. The reason behind is the need for constant complex and actualized information, evaluation of development of quality of life indicators in the town and submission of alternative solutions of development in particular areas of life in the town. Another reason is a constant communication with other subjects of territorial development and inhabitants of the town and analysis of their needs, demands and opinions.

Nowadays practically all the municipalities in Slovakia ensure the design of development plans externally based on a selection procedure. That is why the submission of proposals is centered on a narrow group of people, the professionals submitting the proposals and the decision-making about the priorities is in the hands of elected representatives. The problem of decisions is particularly the fact that they are not based on regularly actualized analysis of the municipal potential, possible activities, development abilities and analysis of available

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resources. Oftentimes the assigning of planning works to the professionals who do not live in the municipality causes that the proposals do not respect the municipality's specifics, do not grasp its potential the municipality could utilize in competition with other municipalities.

Municipalities and towns (since January 1, 2002) have at their disposal several instruments for territorial development management and for increasing the quality of life for their citizens:

- Planning instruments (regulation and territorial development).
- Economic instruments (tax, financial – budget, property).
- Standard-setting activity.
- Personal independence (selection of high-quality staff, election of the mayor and representatives).

By another decentralization of state power, but also responsibility, in 2002 the independence of regional bodies regarding the development management of territory governed by them was reinforced. Even though the lack of already current model of governance persists that is too large extent of so-called divided powers. This fact distorts the quality of municipal politics and quality of town governance assessment.

Planning instruments, especially integrative planning activities, mostly socio-economic strategic planning and urban planning, represent long-term instrument of territorial development regulation. Transit into market economy, change in ownership relationships, but also globalization of economy which brings even increasing pressure of multinational companies and financial institutions to create urbanistic space through large projects, also brings along an amount of problems, especially demand for quick reaction.

Economic instruments of territorial development management in the hands of local municipality are not adequate. And it is so in spite of having at the disposal some tax instruments (property tax and local charges), shares on national taxes (individual income tax, legal entity income tax, road tax) are classified as the municipality's own income, existence of fiscal adjustment (subsidies to municipalities under 3 000 citizens for operation of municipal functions), having their own budget, being the owners of their own property. Systemic flaw is the little connection between the place where the tax is created and where it is used. In other words, the high-quality management of territorial development is not reflected into an increase of its tax power and therefore into the growth of public service quality and quality of life of their citizens. Central collection of national taxes and redistribution of some of it to municipalities according to the number of citizens does not motivate towns and municipalities enough for preparation and implementation of development programs. On the contrary, the only decentralized tax (real estate tax) in the management of municipalities occurs often excessively because it is displayed in full extent in the municipal budget.

Municipality can enact general obligatory orders to manage the territorial development that are supposed to regulate the societal relations on a local scale and are compulsory as a

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result of council decision for physical and legal entities that permanently or temporarily reside in the territory of municipality. General obligatory order must not be passed in conflict with the law and has to be of common character, i.e. it is not an individual law act. Through this instrument the municipality can regulate all the tasks that belong in its autonomous competence.

The personal sovereignty of municipality is a significant instrument for territorial development management. Every town, municipality can independently define its organizational structure and occupy these positions based on their own criteria. Salary administration and rewarding of employees is also in the hands of municipality. It is important to point here that most of the municipalities in Slovakia underestimate the significance of high-quality structure of local council and personnel politics and this is manifested in the quality of municipality development management in inability to ensure the strategies and visions of development by their own.

The geographical location is closely related to the territorial development management of municipalities and towns in Slovakia. Transition from the planned economy to the market economy causes great differences among regions and municipalities in Slovakia and therefore even in the territorial development management of municipalities and regions with lower production and human potential it will relate to the extent of support and intervention from the state in the transition period.

The size structure of towns and municipalities in Slovakia is a limiting criterion of territorial development management. Limited fiscal resources, but mainly limited possibilities for the creation of high-quality professional institution preparing the backgrounds for decision-making of elected bodies require the use of various forms of inter-municipal cooperation. In most of countries they acceded to the merging of municipalities into larger administrative units (amalgamation, municipalization). The Slovak Republic in this period chose the way of inter-municipal cooperation. Municipalities can utilize several legislative instruments for development management for territory they govern:

- According to the revised Municipal management act the municipalities have wide possibilities of inter-municipal cooperation based on the contract regarding ensuring the tasks or creating of an association of municipalities with the necessary staff.
- Building Code (§ 11, art. 3) enables them to ensure the preparation of common general plan of municipalities.
- Amendment of budget regulation act enables them to merge fiscal resources needed to operation within the inter-municipal cooperation and the implementation of programs.

6.3. Citizen as a subject of socio-economic development planning

Citizen has, according to the European Charter or towns, the right to protection from violence, pollution, unpleasant urban structre environment, the right to democratic control,

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sustainable development, decent living, healthy life, culture, free movement etc. Participation of citizens in local political life has to be ensured through the right to freely and democratically elect their representatives and this has to be enabled in an effective fashion on all the levels of local, political and administrative structure. Citizens have the right to be involved in all the main project issues that influence the future of their community.

After 1989, the conditions of citizen participation in development planning in the territory they live in changed considerably and this is also true for plan and program implementation. Gradually the constitutional right of a citizen is being ensured (art. 30 of Slovak Constitution) who has the right to participate in public matters administration directly or through independent election of the representatives. For the direct participation of citizens in territorial development management the dominant level is municipal level not only for perceived extent of immediate proximity but also for the ability of objectification of problem appraisal by possessing its knowledge. The representatives into the municipal bodies are elected directly by citizens. The majority electoral system in one or more mandate election districts gives to the citizens' hands a powerful instrument to decide who will represent them at the town development in the town development management and in the provision of public services. To resolve important sectors municipalities can create commissions where the local council representatives are the members, but also the citizens can be elected into the position. The shortage of occupying the seats of commission members is the limited influence of citizens on commission creation (only the mayor or elected representative can propose the member of commission and these are approved by council).

Another question is there, how is this right utilized by citizens and what is there relation between the elected representatives of local government, the council staff and citizens. This relationship usually is tense. Currently it is possible to assume that:

- Citizens do not utilize their powers and do not feel obliged enough to be co-responsible for the development of their town. Citizens usually follow their own interests and are not interested in public matters. They want to participate in governance only when they feel that something should be done differently than it was planned or engage when attempting to oppose something or want to enforce the interests of a narrow group.
- In the town executive there still persists the superior feeling of exercise of power as opposed to the philosophy of citizen service.
- Elected representatives of local municipality often do not behave in a way to promote the interests of their electors but rather they promote the group interests and join with the executive against the legitimate request of the citizens.

Expressions like these are reflected in the town development management where the public sector insufficiently and often just formally communicates with the private sector (entrepreneurs and citizens). In most of the cases it does not promote the interests of citizens – electors, citizens – tax payers towards individual or group interests. Despite of sufficient instruments in the hands of elected representatives of the citizens there is a change in behavior

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only gradually and only where there is a powerful citizen society in NGOs. It is only logical that it occurs mostly in the urbanized areas and in areas with higher education structure (social capital). This status is not only the result of advancement after 1989. It is primarily a consequence of the previous model of state and society management.

The change in frame conditions and heightened responsibility of municipality brings also the demand for a change of communication between the public and the private sector. Successfulness of development projects realization is related also to acceptance of projects among the citizens. The classical methods of communication with citizens (information, public meetings, citizen initiatives, local referendum) need to be complemented with the new forms of citizen participation in public matters governance:

- Citizen participation in the vision design regarding the future of the town conducted through citizen meetings.
- Drawing of citizens into the dialogue about concrete programs (common planning groups).
- Discussion groups according to the Agenda 21.

6.4. Legislative aspects and key documents

At the present time there is a need to create the new legislative framework in the area of urban planning as a basic instrument for regulation of spatial development of society in the course of sustainability. However, there are still a lot of questions that have to be answered for meaningful completing of the system of urban planning into the quality of spatial planning that next to the physical environment pays attention also to the economic and social aspects of the change. The absolute majority of these questions are not specific for Slovakia and answering of these is the subject for not only transforming countries but all the member states of European Union. Increase of spatial impacts of human activities, globalization, economic and social integration on the one hand and effort to keep the identity and territorial sovereignty on the other, are projected also to the controversy of processes in the area of spatial planning.

In the European Union in the elapsed years the key documents of spatial planning were created in the form of E.S.D.P. (European Spatial Development Perspectives) and CEMAT document (Principles of sustainable spatial development on European continent) and the latest so-called Territorial Agenda EU. They are the result of consensus of member countries of EU represented by ministers responsible for urban planning whereby the need to achieve this consensus in visible. These documents by their consensual essence and at the same time non-obligatory character are on the one hand reflection of necessity of coordinated progression in area of spatial development in Europe and on the other the unwillingness of EU countries to give up not even a small part of urban planning sovereignty. Therefore so far there is not legally binding document in the EU countries regulating essentially either legislature or methodology and content of urban planning activities. European Commission directives as

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binding documents regulate some of the sectoral planning activities or related methodical procedures (for instance strategic environmental appraisal) though, but in the present time in the EU there is not even united understanding of the term "spatial planning". It is used usually as a covering term of the complex of spatially relevant planning activities (see AESOP documents, European charter of spatial planning and other) where the urban planning activities and activities of socio-economic spatial planning occupy the central positions. It is obvious and today also identifiable that the process of convergence within the spatial planning will be an evolutionary process conditioned by an objective need to solve the identic, similar and in many aspects common issues of spatial development in singular European countries.

Strategic planning of territorial subjects in European Union is influenced by two significant documents. The Charter of Athens (1988) whose objective was to define the preferred areas of next development of urban and spatial planning and thanks to which the terms such as strategy, locality potential, multi-professional approach etc. were brought to the foreground and the Lisbon strategy (2002, modified in 2005) which included that all the subjects profiting from thriving operation of European Union and so have an interest on its development are considered as stakeholders of European Union (term stakeholder emanates from the terminology of strategic management and brings strategic dimension into the development activities).

The first attempts in Slovakia to introduce the strategic planning began only in 90ties in 20th century. It was mostly the projects coordinated and financed by foreign partner institutions. First incorporation of strategic planning (or other than urban planning) into the legislation occurred into the original statutory text of municipal regulation act from 1990 where there were only remarks about conceptions of economic and social development of municipalities. According to the later amendment of this act, "municipalities compile development conceptions of singular areas of life of municipality." By resolution no. 390/1991 the Slovak government adopted Principles of regional economic policy where the importance of knowing the consequences of macroeconomic decision on regional level was emphasized. The basic programming document for Slovak Republic from 1992 was the Strategy of regional development including the intentions to support regional development, determined the problematic regions and defined means of their future development. The Regional support programs were related to it and defined forms of support, economic instruments and systemic measures to assist the development of so-called problematic regions. Subsequently specific Conceptions of socio-economic development of regions, Programs of economic and social development of counties and Programs of economic and social development of municipalities were developed. In 1997 the Conception of national regional politics was adopted that defined objectives of regional politics and means for its achievement. Based on resolution of Slovak government no. 610/1999 the Integrated plan of regional and social development of Slovak Republic was developed and it served as a basic condition to obtain the pre-entrance aid of European Union. At the same time in this year Plan of regional and social development of Slovak Republic was adopted for PHARE 2000 program realization that also served as program document for drawing of the pre-entrance aid. To fulfill the obligation against European Union within the area of regional politics the

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government of Slovak Republic adopted in 2002 several other resolutions. Resolution of government of Slovak Republic no. 133/2002 forms of programing according to the Common Strategic Framework (CSF) were adopted including the structure of regulating and payment organs. Up until 2001 on the local level urban planning had position of "monopoly" planning instrument. After longer discussion a breakthrough occurred by constituting of the new system of planning based on act no. 503/2001 and subsequently its amendment on regional development support that i.a. assigned the main role of government bodies, municipalities and regions at strategic planning of regional development support. Its adoption accelerated the need for planning framework for using of pre-entrance aid and structural funds of European Union in relation to the fact that European Union is a sense of programming principle binds support provision from its funds on existence of strategic development documents. This act was related to the 416/2001 act on transition of some competences from government bodies to municipalities and regions that required municipalities to "execute regional development strategies" and to "execute programs of economic and social development." On January 1, 2009 the new legislative standard in form of act (no.539/2008) with the same title as the previous one i.e. on regional development support, which was adopted in order to support less developed regions by improving the conditions for their economic growth and employment and this way to improve their competitiveness within the European economic space. Need of this actualization naturally emerged from actualization proposal of National strategic reference framework of Slovak Republic 2007 – 2013. This act accents not only regional but also local level. By this it opens the way for government bodies, regional government and municipality communication to achieve effective utilization of public resources without interfering into forms of support and development documents, but it also was conditioned by submitting the request for financial contribution provision from the national budget and from additional sources (financial instrument from European Union) approved by program of economic and social development and corresponding urban planning documentation (if it is required by act no. 50/1976) on a given level (higher territorial unit or municipality). Within the basic principles of European regional politics the applied principle of concentration emerges from the need to concentrate the effort and means of Slovak Republic to support regional development that in the long term display lower economic performance and living standards. Partnership principle includes cooperation of corresponding government bodies, municipal and regional government and other bodies and organization within the program document preparation and realization. Regional development support realized on a national level within the Slovak Republic based on basic strategic document of regional development support, at programming issues based on the need for conceptual approach to ensure development of single regions together with stakeholder activities, is provided in a following way: national (development) plan of Slovak Republic (NUTS I level), regional and sector operation program (NUTS II level), program of economic and social development of a region (NUTS III level) and program of economic and social development of a municipality (NUTS V level). Complementarity emerges from the fact that financial instruments of national budget are complementary (e.g. structural funds of European Union, Cohesion fund of European Union), not majority resource serving to support the emergent activities in the region. In general the strategic planning process of regional development includes the analysis of territory and stakeholder opinion examination, SWOT analysis, problem analysis, strategic

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vision, setting the strategic and specific objectives, selection of measures and priorities and realization and monitoring. Program of economic and social development is the output that is a reflection of ideas of administration and citizens (including other stakeholders) presented by development policy. From the legal point of view this document is a supporting and coordination documents not having general obligatory statute, there is no obligation to produce it (as opposed to the master plan for municipalities over 2 000 citizens). By adopting the act no. 503/2001 (subsequently act no. 239/2008) the conditions for transition to dual planning system were created. On a local level it meant that next to the master plan as another basic planning instrument the program of economic and social development was added based on the principle of socio-economic planning. In 2001 the National regional development plan of Slovak Republic was adopted and it became the basic strategic planning document of medium-term character for socio-economic development of regions in Slovakia. To reach the strategic economic objective the development axis (business, human resource development, infrastructure) were defined that composed the framework proposal of priorities of National regional development plan. Subsequently regional operational programs were developed for in advance defined regions within the financial framework of realization. In 2001 the Ministry of environment of Slovak Republic adopted Conception of territorial development of Slovakia that is by government approved urban planning document which as an instrument of planning ensures overall economic and social development of Slovak republic with reflection into the territory and emphasis on settlement development. Another programming document under the Ministry of agriculture and sustainable development of countryside is the Countryside development plan. For some regions the National program of tourism in Slovak Republic (2001) and Tourism development strategy in Slovak Republic (2013) are definitely more interesting. Looking at reflection of contemporary trends and strategies of sustainable development in a context of revitalization process management into the spatial planning sphere as a resource for system link definition within territorial development management and especially for systematic cooperation of public subjects inside, we can rely on "Principles for European Spatial Development Policy" document that defines the following objectives and principles for single areas of spatial planning policy:

- Economic and environmental development has to be based on still stronger and more balanced spatial structure and support European Union space specifics as for instance diversity and regional identity.
- Economic development has to be combined with resolute management and cultural and natural heritage development.
- Policy has to integrate – development aspects (restructuring and reinforcing of structurally weaker European territories that have a special significance for territorial cohesion of European Union), aspects of balance (generation of the same conditions for living and work crossing the nation state frontiers, between the territories with various level of development), aspects of protection (protection, repeated creation and connection of continual international network of balanced system of non-urbanized-opened spaces with functional use such as natural communities, water sources, recreation, air protection, agriculture, forest management, cultural identity protection, cultural heritage of rural and urban settlement of Europe and country diversity)

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Objectives and priorities defined like this are the core of harmony of spatially-relevant planning activities with sustainable development objectives.

In relation to defining the principles of cooperation of public subjects of territorial development and institutional securing of process management of territorial development in line with its sustainability it is important to emanate from the principles:

- **Subsidiarity** (all the measures have to be realized on the most effective level of implementation).
- **Integration** (coordination among several policy areas in case of need to find coherent solutions)
- **Partnership** (persons involved on a given level have to be able to contribute with their experience)
- **Competitiveness** (problem solution in territorial development have to reinforce the economic competitiveness with innovation)
- **Sustainable development** (be conscious of long-term effects of approved decision and their consequences of solutions and approved measures and to prevent excessive exploitation of natural resources and historical heritage)

Planning activities/policies directly related to revitalization process management in Slovak Republic can be identified on six basic levels – supra-national (European Union, European Commission, UN, EEC), national (parliament, government), regional (regional municipalities, state government on regional level), supra-local (micro-regions, unions of municipalities), local (municipalities, local government) and sub-local (entrepreneurial subjects and other subjects).

Related to the above-stated it is important to understand the management of revitalization processes as a cross-sectional issue of spatially-relevant activities of management among which in the sense of the above-stated classification dominates the urban planning, socio-economic development strategic planning and landscape planning supported by a wide range of scientific disciplines concerned with various components of territorial systems. System of spatially-relevant activities is one of the main pillars of complex spatial development management system and therefore also brownfield revitalization process management and consists of:

- Spatially-relevant planning activities:
    - Integrative planning activities represented by landscape planning, socio-economic strategic development planning and urban planning.
    - Sectoral planning activities such as for instance transport planning, infrastructure planning etc.
- Spatial monitoring and system of management of information regarding space.
- Spatial management – implementation management system.

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This system should create conditions for ensuring the securing of permanent harmony of all the activities in affected urban area with special emphasis on concern with environment, reaching the ecological stability and achieving sustainable development, considerate use of natural resources and protection of natural, civilizational and cultural values. In accordance with European charter of spatial planning the spatially-relevant planning activities have to form a democratic, complex and functioning system oriented on long-term objectives.

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7. Practice Transfer in Brownfield Regeneration in the Slovak Republic and in the Czech Republic

Spatial development acceleration, substitution of "space consisting of places" into "space consisting of flows and processes" in European towns, but also in rural settlements and opened country, means looking for the new use for spaces and territories which by their current assigning do not fit into the new social environment but, moreover, can serve as burdens or obstructions of development. International community labels these as brownfields, degraded or affected territories, territories with burdens etc. For many years there was a lack of attention to these areas, even in Slovakia, but environmental problems, lack of available surfaces and escalating demand for functional integration of all the territories within the town/municipality lead to heightened attention to the issues of rehabilitation and regeneration of affected territories, especially in European Union countries. Despite the financial and temporal demandingness of process the foreign practice demonstrates that appreciation of these territories can overcome all the present expectations. Potentials and opportunities of their use often become an important competitive advantage of a given town or municipality in all-European competition of investments, inhabitants or visitors.

Existence of urban areas in the degradation stage is a natural part of urban evolution where at the same time exist the structures in various phases of its evolution including the degradation phase and subsequently the restoration. Analysis performed within the research projects of European Union demonstrated that the degradation phenomenon of urban structure segment opens up the space for innovation spread within and renders problematic in case when its territorial extent, depth of degradation or external conditions in the long term impede the natural regeneration processes and to initiate these an intervention from outside is necessary or in case when the territory by its negative effect impacts surrounding structures and threatens their degradation. Many times the degradation process affects the settlement structure at the same time on several places what considerably lowers the inner ability to overcome the degradation phase as a part of natural life cycle of urban structure.

Developers, investors, planners, architects and the whole society are facing the pressing issue of brownfield regeneration. So far there is relatively little experience with regeneration of brownfield sites, however, the quantity of them, the economic situation and often the lucrative position of brownfield sites within the towns obliges us to be increasingly interested in the issues of how to transform them into a typology usable at present and restore them to life. It is not a simple task, given the fact that former industrial buildings and other underused areas "enjoy" under-estimation and investors as well as municipalities often do not consider their importance and value as part of the cultural and technical heritage. There prevail efforts rather to "erase" brownfields, eliminate any traces of the past and reshape the land for "empty site and start to build from scratch. With this attitude planners and architects do not have enough opportunities to prove their creativity and inventiveness they, however, do not lack, and which are particularly necessary in brownfield transformations. But unless investors do not change their approach and realize that their effort of incorporating original objects into a

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new architectural design is, after all more advantageous for them than they thought, we still remain only at the level of theory.

In the Slovak Republic most of unused brownfields are considered only as a great potential for the future and they still wait for their chance, some of them have already been successfully regenerated. In the Czech Republic much more pro-active policy by the state, regional and local self-government initiated the whole spectrum of regeneration activities, driven by the public as well as by private sector, and resulted into the successful large, medium and small scale regeneration projects.

Below one example from Slovakia – regeneration of the steam-power plant in the city of Poprad is presented and one example from the Czech Republic – redevelopment of the former mine Karolina in Ostrava.

7.1. Tatra Gallery in Poprad, Slovakia

Background

"Tatra Gallery" is situated in a former steam-power plant building that is located near the railway station Poprad-Tatry towards the city centre. This location can be characterized as the broader city centre with a combination of housing and facilities. Currently, low-floor apartment blocks are situated there (built because of enlargement of the city towards the railway station) as well as public facilities of higher regional significance (secondary education, temporary accommodation, commercial services). A front park of the railway station creates contact with the area. Industrial and manufacturing zones have been continuously squeezed from the locality due to natural reasons.

Visioning, planning, programming

Poprad's steam-power plant was built in 1912 as a device to supply electricity to the Tatra tramways from Poprad to Starý Smokovec and further on to Tatranská Lomnica and Štrbské Pleso. The plant was built by the Hungarian company Siemens - Schuckert Budapest – Bratislava. The reason for becoming a brownfield was the re-building and reconstruction of the Tatra's railways. The power produced by the plant was insufficient and its further development was impossible because of the environment in which it was located.

The impact of changes to the surrounding structure: the location was slowly changing when production facilities moved to suburban areas of the city. Production was replaced mainly with housing and facilities. The actual vast area of the plant was not utilized anymore and no demands were placed on the surrounding structure that was limited only by territorial barriers.

Picture 3 – Tatra Gallery in Poprad, SK

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(Source: M. Baloga)

Implementation phase

Funding: European funding mechanisms. Financial budget: Self-governing region of Prešov. Construction-technical condition: new premises were added to the object, the original part was reconstructed in the original extent.

Outputs and results

The steam-power plant has acquired a new function – it became the seat of the Tatra Gallery, which enhances the functional content of the locality and with respect to its activities it hardly affects the services. The building has retained its appearance and thus it does not alter the composition of the environment. The gallery is naturally integrated into the surrounding structures. The mass and spatial compositions help to preserve them as well. Its new feature has naturally been supported by functions and by maintaining the character of its surroundings.

Sustainability precondition

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The new function of the plant – a gallery – has been oriented upon the general public, but due to its specific focus it has primarily attracted local educated levels of population and tourists. Therefore, it does not impose increased demands on the surrounding area and it rather underlines the railway station front space as a welcome place for visitors in the context of city tourism development.

7.2. Ostrava – Karolína, Czech Republic

Analytical background

The territory that is called Karolína (Ostrava) is historically the territory which in the early 19th century was located on the edge of the city centre. There was a mine Karolína situated here (near was another mine Solomon) and then coking Karolína. The neighbourhood was in the need to house workers and miners working in these environments. Over time, therefore, it grew together with the present areas of Vítkovice (see Figure 7).

In 1985, the coking plant closed and close to the city centre a space has been created, which represented the environmental risk (for later carried out decontamination work was drawn from the 600 tons of tar) and actually formed a functional barrier (transport and traffic had to go around) and it also aesthetically ruined entrance to the city centre. Demolition was completed in 1990, but it was only aerial parts of the demolition of buildings (which in turn greatly complicated the decontamination and remediation works). However, before 1989 (the Velvet Revolution) were the priorities for aesthetic values were elsewhere than in the city centre, where in the future its disposal was planned (mining below the town centre).

Picture 4 - Location of the Karolína area in Ostrava

(Source: www.ostrava.cz)

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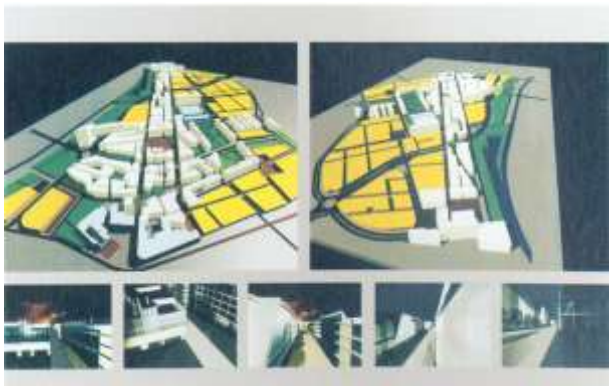
Visioning, planning, programming

In the first years after the revolution, the situation was extremely difficult for Ostrava . Due to structural changes in Ostrava was subjected to strong pressure in the form of unemployment, leaving the younger generation working in Prague as well as the growth of crime and homelessness. It was obvious that Carolina needs to be addressed, but in the Czech Republic there was no example that could be used as a model. (Only after the visit of the colleagues from Carneggy University Mellon in Pittsburgh, the term Brownfields started to be used.) Among other barriers, due to large privatization, Carolina ownership was divided among more owners (part of the privatization contracts was also the state's commitment to the care of the cleaning of the area). These owners, along with the city of Ostrava, created a consortium in 1994, launching its activities by a survey of contamination and by the elaboration of the marketing study.

Implementation phase

In the years 1994 - 1998 is a detailed survey, the analysis of environmental risks and preparing the application for the National Property Fund to provide funds for remediation and decontamination area. Remediation and decontamination take place until 2003. An important aspect that is not only unique because of the extent of decontamination work, but also with regard to future development is the absence of the concept of the future use of this area. In order to get at least an idea in 2000, announces the city of Ostrava urban architectural competition for the design of functional use with the fact that it is an ideological proposals rather than the promise of realization. The competition is known for projects from around the world, and Ostrava definitely made a good marketing ploy. In Figure 8 two designs of the competition can be seen.

Picture 5 - Designs of the Karolína area in Ostrava for the competition



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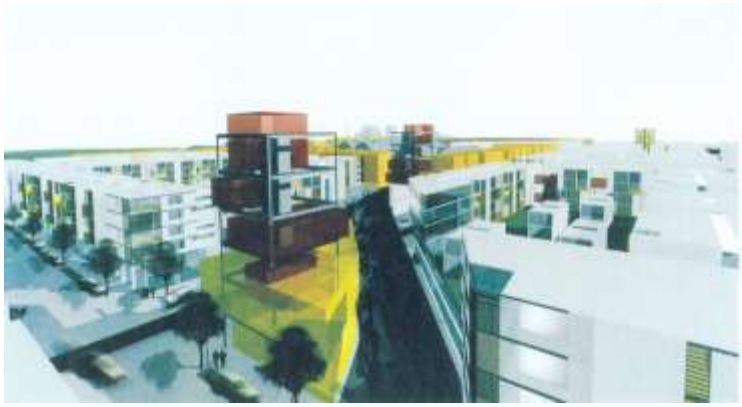

(Source: www.ostrava.cz)

The problem, which subsequently showed, was just ownership fragmentation sites. The winning design had managed to insert into the master plan, but just this step, the whole process of regeneration actually stopped (private owner had no interest in the park on their land). In 2005, the city of Ostrava buys land and consolidated the entire area. It announced a development competition for the project, which ended in 2006 and declared a winner. In 2008, construction has already begun but was effected by the crisis. So the construction continues to 2010. In 2012 the whole area has been opened and there is a large shopping centre (completed first), apartment buildings and office space (see Figure 9).

Outputs and results

It took more than 20 years long until it was successfully completed and Ostrava can boast of a new residential and commercial area near the centre (over the number of voices who criticize the final architectural form). But the question is whether this building actually not displace the already slowly fading function of the historical centre - the centre will become a ghost town (unfortunately change for the function of housing and administration was already done in the early 90's of the last century). A second question is whether it is good or bad. What did we actually want to achieve? Transform the brownfield for the area used. This has undoubtedly succeeded. Perhaps paradoxically, this giant competition will lead the councillors of Ostrava to completely earnestly ponder what to do with the centre.

Figure 9 - Newly built Karolína area in Ostrava, 2012

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(Source: B. Vojvodíková)

Sustainability precondition

Discussion regarding the sustainability begins slowly to turn to relation to high rents in the shopping centre and the relatively small number of visitors (during the year Karolína was left by many stores). The second function is housing. Real estate agents declare that the flats are mostly sold, but if you take a walk in the evening hours, the number of lit windows is relatively small. The office building will be likely decided by the financial strategy of the developer, because in vicinity, there are several large administrative buildings that stay empty.

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8. Practice Transfer in Brownfield Regeneration in other countries

8.1. Turin, Italy

Bratislava and Turin have a lot in common. Both towns played an important role in the past, both evolved in the recent history as industrial centers, both currently experience processes of vast transformation connected with the creation of large brownfield areas. Structural recession of automobile factory FIAT caused considerable problems to Turin when the number of employed people in automobile industry decreased in twenty years (1981 – 2001) from almost 140 000 to 60 000 and huge areas along the north-south railway axis of the town crossing the town center remained vacant. Turin reacted to this challenge with strategy of complex transformation with project "Spina Centrale" (Central backbone of the town) projected into the new master plan in 1995. This project meant initiation of joining the agglomeration territory with town center by public transport (project "Passante"), building of 15 km long urban boulevard with green spaces over the railway, regeneration of 3 400 000 m2 of previously industrial areas along the boulevard with mixed-use urban structure. Project includes four key spaces – SPINA 1 to SPINA 4 in which the regeneration process was fully initiated. SPINA 1 and SPINA 2 sector is fully realized and includes expansion of university campus by scientific-technological park over the boulevard into the area of former depot and railway factory. In complex SPINA 3 currently a large park is being created and the project includes restoration of surface river flow and a complex of environmental technologies so-called Eco-park built on the area of former FIAT factory. The project became a part of town development strategy supporting the development of compact urban structure with cultivated green spaces and transportation service based on electric traction of public transport (a combination of train, tram and automatic light metro) which was heavily supported by citizens and is successfully being fulfilled.

Picture 8: Project Spina Centrale 3 – revitalizing of industrially affected urban area in Turin (Italy)

(Source: Ľ. Jamečný)

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Picture 9: Transformation of Fiat factory area into the center of services and sport for Winter Olympics in Turin (Italy)

(Source: Ľ. Jamečný)

8.2. Essen, Germany

German town of Essen in federal country of Northern Rhineland-Westphalia in the center of Ruhr represents a highly-developed industrial center, with centrals of many large industrial companies and firms are located, which after the regression of heavy industry within the restructuration became an important tertiary center. In 2010 the town was awarded as one of three European capital of culture. Essen, for 20th century Europe mostly worldwide center of mining and heavy industry, has a rich history. Coal field is documented since about 1317. Alfred Krupp developed Essen into the largest coal mining and steel manufacturing areas in Europe.

The past and the presence of transformation process of Essen are symbolized by Zollverein mine. Shortly after 1932 it was one of the most productive mines in the world. December 23, 1986 was the last day of mining and afterwards the mine was closed. Coking plants were closed too on June 30, 1993. Considering the termination of mining the town becomes in 1986 the sanctuary of industrial culture as the only one of a kind worldwide and on December 14, 2001 it was inscribed into the UN World cultural heritage list. Despite its historical connections the Zollverein is also a synonym for innovation and meeting point, creation of new ideas, modern design, culture and business. New functions and new citizens received an opportunity to work in exclusive environment of World cultural heritage center. However, achieving such a status was not easy. After the mining termination the question was how to move forward with Zollverein? The owner asked for demolition permission, but the effort from local authority to preserve the area with unique technological structure and industrial architecture with economic, social and historical significance for the whole region

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was successful. One of the world's most renowned architects Rem Koolhaas designed a successful concept for sanitation works with emphasis on the need to preserve the character of the area. Various strategies and approaches to rehabilitation were incorporated within the location from object sanitation, through letting the area to re-naturalize through natural succession of vegetation, modernization and completion of structure, to the conservation. Complex became i.a. the seat of School of management and design, Ruhr museum that established here its seat and at the same time it serves as a visitor center.

8.3. Newcastle upon Tyne, GB

Industrial agglomeration on the northeast of England the Newcastle is the center of, struggles with the problem of economic transformation for a few decades already. In 19th century and first half of 20th century the region was the center of coal mining and heavy industry. From the end of the second world war Newcastle recorded a quick decline demonstrated not only by industrial decay but also rapid decrease in population while during the 50 years they lost almost a third of 350 000 inhabitants. These facts were reflected not only into an extent of vacant industrial areas but also considerable social problems and degradation of large residential areas. The complexity of issues and their regional and supra-regional character led the British government to initiate large restoration support programs for degraded territories and revitalization of regional economy. Newcastle became an example of conceptual complex strategic approach to revitalization of affected urban areas using locality-specific strategic approaches and methods of regeneration of singular areas with wide participation of public and other affected subjects in the decision-making. These strategies helped to reverse the decline processes, to change the image of city and to initiate the progressive development based on environmentally acceptable economic activities with objective to create the "first CO2 neutral city" in Great Britain.

The revitalization projects along the Tyne River are some of the examples of successful transformation of affected areas after the industrial production, transport machineries and also inconvenient residential structures. Tyne quayside was transformed into an attractive environment for living, culture and services. On the place of former docks a new administrative complex Newcastle Quayside was built including the building of Gateshead Millennium Bridge, reconstruction and transformation of stock complex Baltic Flour Mills into the gallery of contemporary art, realization of music center The Sage Gateshead projected by Norman Foster and a whole range of residential complexes creatively using the concept of water, artifacts of local industrial history, great transport connection and close proximity of the city center to create excellent residential environment in a very human scale.

Picture 10: Redevelopment of docks and heavy industry in Newcastle upon Tyne (England) as a result of postindustrial transformation of the region of Northern England

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(Source: Ľ. Jamečný)

8.4. Delft, Netherland

Very nice example of sensitive approach to revitalization with preserving of values of their cultural heritage is Delft. This small university town in Rotterdam agglomeration will realize complex revitalization of territory of very high value on the juncture of town center and university campus called Zuidpoort Delft. This project integrates the strategies of conservation, restoration, modernization, completion and also substitution of structure with new objects in excellent symbiosis, balance and cohesion with preserving the genius loci, scale and material purity next to completely new functional content including living, culture, services, commercial facilities and underground parking lots. Zuidpoort project is also an example of successful public-private partnership of town because it is realized as a joint-venture between town Delft and Dutch Development Company.

Picture 11: Modernization and functional transformation of objects of industrially affected urban area in town Delft (Netherlands) with preserving of genius loci

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(Source: Ľ. Jamečný)

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9. Brownfields as the cultural heritage

The perception of brown fields, "as an abandoned insufficiently used or void territory, where the antecedent using finished, which can or cannot carry the ecological loading and the market was unable it reuse without intervention" (Jackson, 2006, p. 9) monitors preferentially the environmental and economic sides. It reduces the characterization of brown fields on the technical reporting of ballasts only, or on figuring the financial fastidiousness in the case of reflection about theirs possible next exploitability. The capacities and potential of brown fields are apperceived only as the land worth for the new "unloaded" investments called the "development projects".

In the course of brown fields revitalization, so as in the courses of their initial producing activity there are acting besides the economic and ecological factors, at the same time the phenomenon of full spectrum of social life with a synergic impact - the technical, social, cultural. Each historic era formed and consequently left her "cultural message" – a heritage. Equally, the industrial era left her cultural message called the industrial heritage.

The industrial heritage is an internationally accepted social-cultural category: it is a material document of deep civilization changes, which the industrial production provoked and formed. According to definition from the Charter of Industrial Heritage (adopted by TICCIH1 Congress, 2003) industrial heritage consists „of buildings and machinery, workshops, mills and factories, mines and sites for processing and refining, warehouses and stores, places where energy is generated, transmitted and used, Transport and all its infrastructure, as well as places used for social activities related to industry such as housing, religious worship and education". Course by course of this definition, the brown fields as the material relicts released the terminated industrial production from are a part of industrial heritage. The industrial heritage is an autochthonous subgroup of cultural heritage – therefore the brown fields are a part of cultural heritage, too. "The material evidence of these profound changes is of universal human value and the importance of the study and conservation of this evidence must be recognized".

9.1. Cultural values

The industrialization impulses always demanded the starting financial capital, and the built producing capacities however survived theirs constructors generally in about several generations. The innovations of production based on the mechanical processes facilitated the repeated adaptability of production buildings and of entire complexes, too. The industrial enterprises have become a part of town image, they remodelled the countryside and transformed the culture of inhabitants in touched territory, too.

[1] TICCIH – The International Committee for Conservation of Industral Heritage is an international non governmental organization acting as the accomplished community of specialists and persons concerned in preservation of industrial heritage close by UNESCO. For more see: www.ticcih.org

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The material entities conserved till this time as well as the immaterial factors they are latently present in the territories of brown fields contain the potential able of revival and next development. According to cited Charter, there are such "remains of industrial culture in the territory which are of historical, technological, social, architectural or scientific value". This fact should be the starting point in the revitalizing processes of disabled territories of brown fields.

The cultural values of brown fields are not apparent generally. The term "industrial heritage" is more a synonym of negative impacts of former industrial production on the environment than the cultural values carrier for the considerable part of population. Therefore it is necessary to clearly identify and to explain the content of particular groups of cultural qualities of industrial heritage.

The more important quality of each tangible heritage that moves it into the exclusive category of monuments is the **documentary value**. Whatever conserved element, its detail or also only the fragment, it is a material document having the power of irrefutable proof about the existence of phenomenon, about the capabilities of ancestors, about their knowledge of surroundings, about the professional accomplishments and handiness, about the manner and organization of life. Hereby it is important to protect the conserved elements of heritage against the destruction or devastation, too. It is a deal likewise also about the substitution with something "new and more beautiful". Together with removal of conserved authentic elements also the proofs of the cultural impulses, of continuity and civilizing forwardness cease to exist. The traditions rupture, identity felling decays, self-confidence in own powers disappears. The liquidation of material documents reinitiates the deletion of an active fact (knowledge, abilities, traditions) the individual and societal consciousness from. Regarding the life sustainability, it is a negative and unacceptable practice. Because of is needed to conserve, protect and actively utilise the industrial heritage – as the rare material documents.

Historical values bind up in various facts, events or figures of the history of touched production facility or of its locality. The moment of beginning and the respective building phases have the signification as the milestones of development of that industrial area. The historical value is hidden also in the fact that the important personalities (of technique, technology, politics and others) worked in this industrial entity, or visited it. (Pict. 12). Also the knowledge – who were the co-operating partners, or which important occurrences were enacted here – carries the historical value. All these details complete the mosaic of history not only of that unit, but of the wider region or of the state, too. If the material things – the carrier of the information about the events – are well-conserved, if are accurately presented and interpreted, they make themselves the attribute of genius loci and have the capacity to stimulate (sometimes also to provoke) the revitalizing processes in the brown field.

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Picture 12: The sculpture of Thomas Baťa in the park of the town of Svit (SK) remembers the founder not only of local factory, but of the entire town

(Source: E. Kráľová)

Architectural values consist in the individual architectural creation of conjunction of specific local conditions with exigencies of production technology which are presenting as:

- location of industrial facility in the country-side,
- organization and composition of production precinct's build-up area and its background (including the housing-zone for employees and theirs service facilities),
- conserved state of authentic ground-plan, composition, material or decoration of individual buildings (so internal as external),
- organization and service facilities in surrounding, necessary link's support.

The conserved buildings of abandoned workplace's brown field can be a sample – document – of typical authentic construction of that time and of that industrial segment. But, it can be also a unique, unrepeatable or innovative technical (production) work of art. (Pict. 13) The industrial areas pioneer technical or unique architectural solutions. There through they make themselves the document of unparalleled facture of the architectural or technical culture's figures of their time[2]. Such buildings conservation is gaining a multiple cultural dimension, on the part of revitalization, too were built up for most advanced available contemporary technology. It is why as a rule these areas contain the. (Pict. 14)

[2] E.g., in Slovakia, there were such architects as Jurkovič, Belluš, Karfík, Voženílek, Scheer and others too, the authors of several industrial buildings and areas, that meant the serious qualitative contribution for the entire architectural production development. The personalities of technique and technology launched their inventions and patents here.

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Picture 13: The town of Svit under the High Tatras was founded and built by the company Baťa according the projects of architects Vladimir Karfík and Jiří Voženílek

(Source: E. Kráľová)

Picture 14: In the fore of industrial enterprise area for producing the cellulose and paper (actually the company SCP Monti, Inc.) in Ružomberok (SK) stays a fragment of factory's entry wing. The architecture was built-up according the project of known architect Scheer in the functionalist style. The photo is shortly before its demolition from. The building was replaced by the parking area for the employees' cars

(Source: E. Kráľová)

Technological values of industrial heritage, within the meaning of cultural dimension, express the contribution of contemporary technology to the application of scientific know-how: to the production processes optimization, to the improvement of product manufacture qualities or to the work conditions whether environment improvement – and in that way to the civilizing progression of humanity. The original technological equipment (machinery, e.g.) conserved in the authentic materials and design (Pict. 15, 16, 17,) represent a specific quality of technological values. Also the using of contemporary state-of-the-art building technologies

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or an innovative technological proceeding for the building-up of production facilities (e.g. the prestressed steel or reinforced concrete constructions, the large dimension or thin-walled construction and others), is the important technological value.

Picture 15, 16, 17: The original machinery equipment of already non-functioning factories documents still the high technological and design level of the technical production of that time. Prague (CZ), Turbina close Kežmarok (SK), the Cast Iron Museum in Budapest (HU)

(Source: E. Kráľová)

Also the technological know-how well-preserved in a materialized form such as the technical documentation, standard directives, formulas, original patent authorizations and similar, range to the technological values, too. (Pict. 18) For the achievement of successful revitalization respecting the cultural values, there is beneficial if the most integrated set of documental elements on the already extinct processes will be conserved. Also only the parts, fragments, or isolated pieces of technological lines, the building partitions and their arrangement, those provide an idea about the production manner have the technological value, too. In the frame of revitalisation processes, there is needed to provide them the space for perceptible presentation and comprehensible interpretation.

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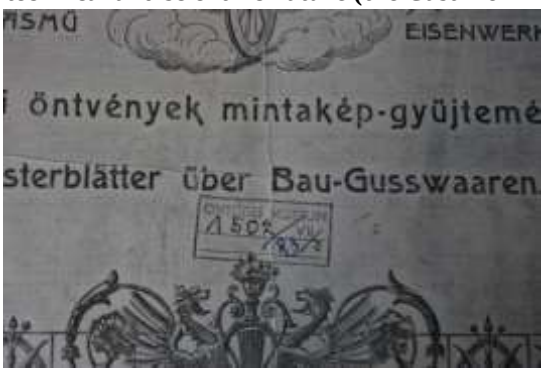
Picture 18: The catalogues of already extinct industrial plants kept in museums are a precious source of information of the historical, technical and scientific nature (the Cast Iron Museum Budapest, HU)



(Source: E. Kráľová)

Scientific values are bind with all other types of values. Their spirit inheres in the fact the material records (well-preserved tangible remains) are authentic information's source for the scientific research – either about corresponding historic era, or to documentation and conserving knowledge about science and technique development. The scientific recognition of outmoded technologies can bring the new findings in certain situations and can be an impulse for the new discovery or almost for innovations. (Pict. 19) it is important, for that reason, a well-preserving of all until now conserved tangible rests of industrial heritage in the maximally authentic state. In the frame of brown field's revitalizing processes it is necessary to provide for – along the preservation of authentic elements in situ, also their accessibility, the space for scientific investigation, as well as the leeway for the achieved results presentation.

Picture 19: A visitation of authentic operational spaces with functionally preserved technology is a strong attraction for the students of technology, for the specialist and amateur public, too

(Source: E. Kráľová)

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Social values are the other very important component of utilizable potential of industrial heritage. It was already mentioned that industrial production has had very strong forming impact on the culture (in the sense "politeness, refinement, enhancement) of manner of life and of interpersonal relations). It affects and forms the work habits, social contacts end the human ethics (moral) in the large coverage of contact surrounding territory. A genius locus is alike important factor: people know the ambient, its visual symbols are near them, and they are able to orientate oneself wherein, they feel safely there. (Pict. 20) The more detailed expression of social values significance in brown fields is to see in the foregoing chapters.

Picture 20: The formal individualism of the industrial facilities including the technological dominants (i. g. smokestacks) gradually becomes an identity mark of surrounding territory. (Sewage treatment plant in Prague, CZ)

(Source: E. Kráľová)

The abandoned brown fields, as an active part of previous industrial production, include all the mentioned values. Naturally, considering the time measure since the leave and the conditions without monitoring the values proportions of brown fields are diversely limited or fractured, one of goals of brown fields revitalization have to be an adequate presentation, interpretation and using the well-preserved cultural values by general public. In the appropriate manner activated and made available cultural values of brown fields, they can enrich the offer of revitalization activities and strengthen the effectiveness of regenerating actions.

An inspiring impulse to interpretation the industrial heritage values came out the milieu of TICCIH from: its International Section of Textile Industry developed a document named "Criteria for selection of textile industry heritage". Its object is to provide the basic frame of analyses that can be useful in the process of localities selection for inscription on the List of World Cultural/Natural Heritage – then at the identification of monuments with an international significance. The document is otherwise oriented to the heritage of textile production, but it is so far as universal and inspiring that is possible to apply the partial

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categories (and their combination) also in the other industrial branches. They are also available for evaluation of the monument's qualities on the local/national level or at the preparing of revitalizing processes, too.

The document identifies 7 categories:

- **"Pioneers"** – i.e. the pioneering works of art, the factories and buildings where the innovations (architectural or technological) were tested and applied for the first time, or the subjects of which the next enterprises / branches derive their origin.
- **"Flagships"** – i.e. the unique architectural buildings / areas, or they that assign the trend for the simile buildings. The "masterpieces" of the human creativity belong here, also the building showing for the notable challenges or diffusion of know-how in the field of architecture, urbanism, or technology development. The examples of traditional housing or territory using belong here.
- **"Giants"**. The dimension is one of the aspects of the building / areas valuation. The measure itself is not the guarantee of quality neither the universal value, but it has the ability to impress visitors (monumentality…). (The giants are an example of above standard manner of unusual abundance material, personal and production encompassment - note E.K.) In addition to physical dimensions there is judged also a number of employers, machinery … and by that the local economic importance, too.
- **„Places of international exchange"**, i.e. the source places of technology transfer or presence (e.g. the electrical lighting used for the first time) or bidirectional transfer (of know-how or of production, too), also the case when the row produced in one country is subsequently worked in the other country The significance of concrete company increases if it led to the development of greater ideas (e.g. Toyota in Japan, one of the first examples of supranational companies).
- **„Time box"** ("Sleeping Beauty"): the objects they have conserved in situ the technological machinery and they were not transformed (Pict. 21, 22). They bring a unique testimony about a cultural tradition and civilization persisting or vanished by that and by the same mail exemplify a type of building / area (of technology, too) and of country-side representing an important phase of human history development,
- **"Urbanism"**: the exceptional examples of regulated or Utopian planning with an influence to the proper space planning that can be directly or marginally linked with the important events or traditions, ideas, religion and faith, with the artistic and literary opuses.
- **„Country-side"**: a set of technical, architectural and natural elements belonging to the concrete industrial branch – the groups of facilities with relevant machinery enterprises, helping workplaces for the industrial production in the gone sector, also for its manpower, housing for the owners and employees of company, the parks, conjoint institutions (schools, hospitals …), water management, transport system, eventually also the agricultural (farming) landscape where the local material is produced and worked, the mining areas … The localities where the industrial production becomes extinct but many of physical proofs to the former industrial

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activity persist all the time, also the "living" localities with the persisting function. (Pict. 23, 24)

Picture 21, 22: The authentic electric motor mounted for the first time in Slovakia for the traction of winding-engine in the shaft Mayer in Banská Hodruša. It waits for a revitalizing intervention in still operational stay

(Source: E. Kráľová)

Picture 23, 24: The Bata's channel built-up by company Bata as a transit line between of theirs facilities served also for the energetic purposes – the small power plant is located against the manor house in Veselí nad Moravou (CZ). The channel improved the production conditions on the large territory longwise about 100 km. Actually, it serves as an attraction also for tourism.

(Source: I. Holub)

This manner formulated criteria have the ambition to serve as an aid for the selection the worthiest examples in the ambit of well-preserved building fund of industrial entities, areas and complexes. The document states also the evaluative criteria on which base it is convenient to appreciate the industrial architecture. The maintenance and enhancing that objects should not be the task only for the monument preservation service, but also for solving the question of further using by law unprotected industrial objects they are a part of cultural message and of local identity. In the processes of renewal, reconstruction or adaptation of industrial heritage, then also at the revitalizing of brown fields there is a justified claim to preserve the characteristic signs of concrete branch they are an important holder of values and information.

9.2. Converse reusing of brown fields

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In the countries with developed market economy where to the economy restructuring commuted already from the half of 20th century, there are present the long-time experiences with the production attenuation processes. Enough samples of entire initially industrial territories successfully converted for the new function are known there from. The new functions are select in such way for to treat actively in the structure of actual social life. The experiences show the industrial heritage can facilitate the rehabilitation of the community weakened by decay, even if it serves to whichever new (socially needed) function. There are also the cases the industrial heritage became an inspiring motive (model) for the development of new activities in the larger touched territory or in abroad, too (e.g. the galleries of fine arts in the former industrial buildings).

A conversion (change of function) needs normally the adaptive building intervention into the original industrial structure, Zemankova (2003) structures the samples of successful industrial heritage conversions (realized mainly in the west Europe) depending of conservation measure of the area and in according to new building intervention. As she put it the areas of industrial heritage are used mostly as:

- the museums of last day,
- the specialized thematic museums of technique and technology,
- the galleries and exposition areas of general focus of sector,
- the facilities for education and upbringing, the community houses or schools,
- the specific multi functional cultural facility,
- the specimen centres or the commercial and social large-capacity centres,
- the production areas with the change of production activity,
- the urban spaces functionally and formally transformed.

Here is needed to accentuate the adaptive interventions are realized in the exclusively actual architectural expression. Their cultivated architectural realization respecting the cultural values of authentic industrial heritage supports and qualitatively elevates the acceptance of realized conversion.

Not only one procedure not even standardized uniform criteria can be applied by choosing the new function for the abandoned industrial spaces. Also when an area holds protected cultural values there are not necessary to orient the new function only to cultural activities. It turns out a mix of services, the conditions for social meetings and the conveniences for the cultural events or non-formal education is an optimal solution. From case to case always the concrete situation must be regard individually. Then must be made provision for not only the physic requirements of disposal industrial heritage, but it should respect also the identified cultural values and the complementary social factors conditioning the development and sustainability of new activities, too.

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The further industrial buildings and areas in comparison with other typological groups of cultural heritage provide the good conditions especially for events with a sudden load of mass visit rate. Their merits are mainly (Kráľová, 2010: p. 53):

- "they are good identifiable for orientation,
- their spaces and internal links are sized for a mass oncoming of many people in a short time interval,
- they make possible an organization of many people of different interests or function without collision
- they dispose, normally, of sufficient bearing capacities for the social, societal and technical equipment,
- authentic formal design of building and specific equipment of production spaces (originally for public inaccessible and so unknown) after change of function make effect of unusualness, extravagancy, inspiration,
- they are often furnished with the surfaces of high-grown greenery (initially because of minimizing the environmental impacts of production) that presents an added value of area today, in the case the residential quarters are near it muffles the eventual newly produced negative impacts on environment (noise, traffic loading, waste rubbishing and simile)."

9.3. The situation in the V4 countries

Practice respecting the cultural values in revitalization processes of brown fields in the Countries of Visegrad alliance doesn't range amount of mentioned good examples for now. In all these countries, there have experience with good performance of **Museums of Technique and Technology** located in former industrial complexes. In many of examples worth to remember that in the meantime they have become literally an attraction for visitors and trade visitors:

- In Slovakia it is above all the Slovak Mining Museum in Banská Štiavnica. Its exposition is placed in buildings and places that originally served for execution and management of mining and processing of noble metals The museum offers a very appreciate possibility to entry into the original mining workplace (Bartholomew shaft and Glanzenberg adit). (Pict. 25) ´Museum with its exhibition represents a part of the protected area and artefacts of World Heritage Site territory. The Museum of Transport has the similar reputation. It is located in the places of the first railway station in Bratislava and other exhibits are in the nearby area of trackage rails Rendez (Eastern Railway Station). Museum of Transport is an organizational entity of the Slovak Technical Museum in Košice.
- In Czech Republic there are many museums they document the former industrial production of various branches, The very interesting example is Paper Mill in Velke Losiny, that is an authentic historic technological production document listed in the UNESCO World Heritage List. Another example of the type of last day museum is the mining area and its facilities in Kladno. (Pict. 26)

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- In Hungary has a very good reputation Hungarian Technical Museum with its exhibitions located in several former production sites. The most noteworthy is the cast-iron Museum in Budapest located in the original foundry with preserved elements of the original manufacturing technology. (Pict. 27)
- In Poland, the museums of international importance include salt mine in Wieliczka (also a UNESCO World Heritage Site). Equally interesting is the museum of the former silver mines in Tanowskie Gory. Besides of mining industry, in Poland there are many other museums documenting another diverse manufacturing industries and the unique technical devices and mechanisms. (Pict. 28)

Picture 25, 26: Slovak National Museum in Banská Štiavnica (SK) has located its open-air exposition in the authentic objects of former mine shaft Bartholomew and the area of former coal mine in Kladno (CZ) serves as the museum actually

(Source: E. Kráľová)

Picture 27, 28: The Cast Iron Museum in Budapest is located in authentic producing spaces of former iron-foundry.The unique technical design of Elblong channel includes five steps of flywheels-slippage for the ships. It serves today as an attractive excursion route in the contact with Masurian lake system (PL). At the flywheels-slippage of Buczyniec there is also the Museum of Elblong Channel with the authentic engine room. Source: Varminsko-Mazurskou stezkou

(Source: E. Kráľová)

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In addition to mentioned museums, in all four countries there are much more thematic technical museums scattered throughout the territory. Museums protect, preserve and make available the documents of technical and technological development of its surroundings area. They are at the same time the local tourist attractions for the visitors.

The company museums are a specific case of using an industrial heritage for museum function. They are usually placed in the still alive production site (or on its edge), in authentic production or associated areas they are no more appropriate for active production processes. They present history of company, its manufacturing outputs, won awards, important personalities or events of company and its production. For funds and presentation activities they use core or former employees of the company, the operating costs are directed also by the parent company. This method of preservation and presentation of industrial heritage in terms of cultural values is considered optimal. It is not a typical task of revitalization of brown fields, but it is an example of how can be prevented or at least minimized the impact of such fields formation. This process has been a regular part of the restructuring activities of the economy in Western Europe in the last quarter of 20th century.

Very interesting successful museums in our ambient include Gas Museum in Bratislava (directed SPP), Water Museum (Bratislava Water Company) (Pict. 29), or the Metallurgical Museum of Zeleziarne Podbrezova in Podbrezová in central Slovakia. In Krakow (Poland) establishment of technical services of the town created the museum expositions in the historical building of its specialized enterprises (waterworks, gasworks, electric draw traffic, etc..). Individual exhibitions are the stops of the common educational trail, where in each exhibition are strongly advised to visit the other exhibition stops, too. (Pict. 30, 31)

Picture 29: Waterworks museum in Bratislava

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(Source: E. Kráľová)

Picture 30, 31: The Museum of town engineering in Krakow (PL) has arranged its expositions in the authentic historical building of respective working plants. It is a type of urban tourist trail. Source: The Krakow industrial heritage route

(Source: E. Kráľová)

Museums play a serious role in revitalization. It's not "just keep canned" of something already expired. Although the museum exhibits are mostly static and doesn't produce products already, but its mission changed, they become the documents and the subject of knowledge. Museums are active workplaces of collecting of human knowledge and skills: there are the departments of scientific research and technical documentation, presentation and interpretation. They are also a target destination for visit of experts and general public, too. The museums are the organizers of scientific, popularization and wider cultural events; there through the visit rate grows. They exploit actively the expert potential and know-how of former employees of defunct industry. So they fulfil not only an important social role in preserving historical consciousness, but they have also certain (although not significant) capacity of stable employment opportunities for highly and specially trained personnel. The existence of the museum and its activities provide also opportunities for the development of additional services for visitors (refreshments, the information services, manufacturing and sale of souvenirs, etc.). Thereby the capacity of local employment increases. It is therefore appropriate that the revitalization activities will have at mind also the museum function, too.

The Company museums, from the aspect of spatial planning of brown field's revitalization process, are a situation that should be counted in the frame of still functional production sites: then should be identified appropriate building (spaces), where the museum could be located, shall specify the focus of activity and the width of observed problems, establish a framework program, including the vision of sustainability and the number of workers. Subsequently, it should be taken the action for the support of museum establishment in partnership with public institutions, government and management of the production unit. If the company will ceased to exist in the future, it will be assured the basis of mental and material continuity of damping industrial production and its cultural heritage.

The cases when the former industrial area changed its function fundamentally, i.e. it was inserted and developed completely new features into the former industrial objects are –

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despite traditions, scope and content quality of preserved industrial heritage – much rarer. However, even here it can be visible a positive shift in opinion and practical approaches to the active use of industrial heritage:

Simple utilitarian use of built-up capabilities is the easiest, (but not more correct) approach to the use of buildings they were released after have finished the active production, without maintaining technical equipment. A new function in this case:

- maintains principally the external appearance of buildings,
- has a free approach to preserved floor plan layout,
- does not resemble the industrial history of the building / complex, does not present its values as a representative of industrial heritage, (Pict. 32)

Picture 32: The building complex of former malt house belonging to brewery Stein in Bratislava by conversion was changed into the large-capacity beer parlour yet in 80. of last century. In 90 years after a disintegrating privatisation there are several owners of different activities and different self-presentation. Only the specialist presages the few conserved style details from that it is a part of historical industrial complex

(Source: E. Kráľová)

Such method of „industrial heritage reuse" usually occurs with smaller operation facilities. The same result brings the case when the original complex step by step is possessively and spatially disintegrated among several mutually autonomous owners. Into this group there can be include a reuse of former city power plant in Levice (currently guesthouse with a restaurant), the area of former factory producing the technical glass in Bratislava, where the Monuments Board of the Slovak Republic is settled. Both realizations are from the early 90-ties of the 20th century.

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It may seem at the first view the privatization of formerly industrial properties will ensure next active life for the complex. In fact there is usually the most difficult case for revitalization processes, as well as for its cultural values preservation, too. The reason rests in lacking of forecasting preparation of thus fragmented area limits the space for deployment of systemic revitalization inputs, whether of private or public sector. A warning case of this type is the privatization of former Copper Forge facility (Medeny Hamor) in Banska Bystrica (SK): It was managed without respecting the historically and culturally extremely rare site values of the facility that nearly 500 years was one of the pioneers of metallurgical technologies at European level. On the present, it is gradually dying.

Therefore, it is needed to prepare by means of spatial planning tools the objectified sustainability / development prognosis for industrial sites and concerned regions. The visions of converse efficiency of available funds should be a part of such prognosis including the application of industrial heritage and its values.

Maintaining of an active operational technology for new function belongs to optimal solutions of use of production-survived industrial heritage. The railway of Čiernohronská (SK) is one of the representatives of this case. It is operating between Čierny Balog and Chvatimech (close by Brezno), outside of the network of Slovak Railways. privatization: the owner of declining operation or of operation in muffling maximizes the immediate yield of his property (already not of production). He doesn't deal with the impacts of his doing – the solution is left to the public, municipal and governmental institutions. Fragmented privatization of former systemically functioning (Pict. 33) It is an example of a functional conversion maintaining in operation all the authentic constructions and technical equipment of original narrow-gauge railway line. It serves for tourism as an attractive transport vehicle. The rescue activities of enthusiasts are dated from the mid-80-ties of the 20th century, a systemic solution of new functional operation occurred after 2000.

Picture 33: The authentic historic railway of narrow gauge "Čiernohronská železnička" (the Railway of Black Hron) is driving on the initial railway line near of the town of Brezno (SK). But, it changed its feature – instead of the wood it transports the tourists and is at disposal to study also to scientists and amateurs

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(Source: http://chatabalockevrchy.sk)

Functional conversion of former production buildings for new non-production function belongs to welcomed way of revitalization of abandoned industrial buildings (even rarer sites). Such proceeding recognizes the previous manufacturing and purposefully maintains (at least partially) the conserved authentic technological equipment. It is one of the acceptable forms of preservation of industrial heritage. Into this group there is included the already mentioned Tatra Gallery in Poprad, recently revitalized Reffinery Gallery in Slovnaft complex in Bratislava (2012) (Pict. 34) and also the latest implementation of Bat'a Institute in Zlin (Czech Republic, 2013), which after conversion (for the social and cultural functions) uses the released production pavilions in the area of the former Bata's factory Svit. Similar nature is the conversion of a large area of the former textile factory in Lodz (Poland, 2009) for hotel, commercial and cultural functions. (Pict. 35)

Picture 34: Reffinery Gallery – the new cultural and social centre was implemented into the spaces of unused operation hall in the area of refinery company Slovnaft in Bratislava (SK)

(Source: design factory, o.z.)

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Picture 35: Through conversion restructured area of former "textile quarter" in the town of Lodž (PL) offers a large palette of commercial, social and cultural opportunities

(Source: www.thisiscolossal.com)

A conversion of large-scale industrial areas (such as Ruhrgebiet in Germany) was not implemented in the study countries until now. The revitalization of the mining area in Ostrava (described more in the chapter of case studies) can be considered as a simile action, of course in much smaller dimension. They are the investments that exceed the financial capacity of private owners. Therefore in these cases there is essential the participation of the state and the public sector. The implementation of such investments requires a high-quality prognosis and investment preparation, as well as an extensive time period.

In these and other similar cases in all V4 countries, there is more frequented the manner of "envelope": only the volumes and external forms of disposable objects are maintained. If the other architectural and design elements are well-preserved, so they are conserved for next reuse, too. It is a manner how to achieve the maintaining of visual attributes of the original environment. The preserved useable structures are complemented by new objects and technical equipment if necessary. It is made in the current architectural expression. A presentation of major industrial past is reached already by new presentation and interpretative means (electronic technology, etc..). It is helpful for the preservation and presentation of industrial heritage values if, before a new construction in extant industrial environment the regulations limits will be provided. They will guide the creation and location of new architectural works in co-relation with the preserved cultural values.

9.4. Application in spatial and urban planning

Spatial planning, observing the principle of balance is accepting the culture as an initiating and influential phenomenon for to achieve the desired conditions for sustainable development. In the process of revitalization of destabilized brown-fields, there it means to respect and to actively use the cultural values of disposable industrial heritage.

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The preparation processes for new use of the objects released after have finished the industrial production (as part of the revitalization of brown fields) are different comparing the preparation of new development investment. International experience shows if conversion has to be socially (not only economicaly) successful, it must:

- Respect the inherited qualitative characteristics and limits of surviving buildings, especially the historic environment and existing urban, architectural and building structure.
- Optimize the new use of available spaces so that the inherited values can be preserve and appropriately present and the further development of the new feature will be allowed in the extant structure.

According to Zemánková (2003, p. 40) "…the architects, representatives of city and regional authorities responsible for development of the territory, deputy members, residents, sociologists and many other specialists should take part in team of the processes for searching and selecting the new function. These all should choose a suitable function based on projections of location needs – in confrontation with territorial, architectural and technical proposal of released industrial heritage ". For to achieve it, there is absolutely necessary to be thoroughly familiar with the following:

- History of the building (complex), its cultural value.
- Broader territorial and spatial relations.
- Architectural and technical character of the building, its peculiarities and uniqueness, construction and technical capabilities as well as with technical limitations resulting for adaptive changes in structure. (Pict. 36)

Picture 36: The municipality management of Špania Dolina watched with interest the student's vision of Faculty of Architecture STU for the reuse and presenting the remains of industrial heritage in the territory of this historic industrial site

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(Source: E. Kráľová)

The actual practice of the preparation process for revitalization of brown fields watches primarily the measurable factors – e. g. cost items, ecological, transportation and other technical indicators. For to be possible to respect the cultural values of brown fields, is inevitable to identify and clearly express the non measurable values of industrial heritage. The further work is possible with them in the frame of revitalizing activities. The analysis of values of the operational territory and its built territory serves to exact expression of that factors they are used in the process of the revitalizing or converse interventions projection.

Analysis of the cultural values of the monitored zone has a character of process – i. e. a sequence of steps they follow one after other. The results of each step may affect the partial results of the other steps. Therefore is important to confront and correct them continually. The recommended sequence of the steps of values analysis is as follows:

- **Identification**, i.e. detecting the occurrence of values,
  - its naming,
  - location determining,
  - implementation in to documentation.
- **Characteristics** of values expression , i.e., to describe (if are present) their
  - external shape expression (placement, composition, size, morphology, etc.),
  - immaterial qualities (goodwill tradition, historical links to persons, events and technologies, tradition of corporate culture, extends beyond the boundaries of company) - if they are active, then is needed to allocate their focus, or places of realization - as well as to describe the holder / carrier of values,
  - their importance.
- **Analysis of the potential** of sustainability, respectively. of development - i.e. to evaluate the level of conservation and the ability to maintain / develop itself according to individual components:

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- urban structures and their spatial interconnections,
- architectural structures,
- technical facilities,
- other conditional requirements.

- **A decision on the need of preservation** (presentations, revitalization, development) – i.e. to determine which of the identified values and their physical holders:
  - to preserve", "to protect" and "to present" (possibly to highlight by presentation),
  - to remove as distraction or perception obstacle" of major cultural values,
  - to make possible adaptation" or "to add" or "to expand" – determined should be dimensional and height (shape - in exceptional cases) regulation of new interventions.
- **Implementation into the system of decision-making and management structures**, in that:
  - into the program and projects of revitalization,
  - into the general locality plans and to the plans for economic and social development,
  - into the system of supported priorities,
  - into the recommended programs for business and the voluntary sector,
  - into the other specific local programs.

The professionals of several professions take a share in analyzing and evaluation of these data. The composition of major profiles varies from case to case depending on the type and characteristics of disposable heritage. The basis of the analysis is the field survey on the site and the evaluation of findings obtained directly from the reference area - urban, architectural, art also design characteristics, information about technical condition, condition, quality and range of facilities. These data are collected and evaluated by persons with particular expertise on architectural, urban or historical research - architect specialist, art historian, in cooperation with a specialist in technology of manufacturing operated in this area. According the circumstances, also the experts to raw materials, natural and ecological issues may be invited and the company employees who have the experience from the period of active production phase, too.

Further information are obtained from the collections of specialized institutions (archives, specialized libraries, museums, etc..). Archive research for such territories is of a wide-spectrum and it is carried out by specialist historians, respectively the archivists in the archives of various profiles and of different territorial competency or ownership (eg. corporate archives). The information obtained from the archives is compared then with the findings from field research. The meaning value that is thereafter attributed to the examined object /area of industrial heritage includes an intersection of all the ascertained qualities (historical, technical, scientific, architectural or other different). The overview composed with the values and their holders is the basis for the decision making about the extent and nature of conservation measures they will be projected into the master plan and in project documentation of revitalization.

This procedure is analogous with the procedure of national cultural monuments declaration. This process isn't legislatively binding for the spatial (and urban, too) planning

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procedures, because of is done very rarely in the practice. With regard to the synergistic effects of the cultural values in the revitalization process it is beneficial if the analysis of the cultural values of the affected area is available.

The benefits of the effectuation of cultural values analysis become evident particularly if the analysis has been carried out when the entire area of reference site is just yet in operation (although weakened). Analysis prepared already on the "developed" brown field is poorer of knowledge (some values meantime waned or also perished) and it isn't always the opportunity to cover the whole affected area. Therefore is important that the analysis of the cultural values of industrial area become an obligatory part of the revitalization process and of spatial planning in general.

9.5. Current trends in the countries of V4

In all four countries of Visegrad alliance there is a clear movement in favour of cognition and protection of the cultural values of industrial heritage. There is also increasing the interest in the cultivated use of former industrial built structures. While this trend is positive and gratifying, it does not have yet a decisive impact on the revitalization of existing or newly emerging brown fields.

The need to maintain the cultural values of industrial heritage (as well as of that of brown fields, too) is only slowly elbowed one's way into the consciousness of management structures of countries and regions. The support of new investments has actually a preference. To the systemic joint of both problems of processes there is not came till now. The cause resides in persisting isolated management of the economy and social branches in the ambient of public resources (cultural values "belong" to culture, it seems the financiers of development are specifically disabled against the culture). It is lacking the authorities on the state and regional level, too, connecting the interests of all concerned bodies.

The situation is slightly better in the field of knowledge and evidence of cultural values. Industrial heritage, its registering and protection is provided in all countries through the institutions of civil service for the monuments protection in the branch of Ministry of Culture. In Czech Republic there is active the specialized Research Centre for Industrial Heritage that recently moved into the academic environment of Czech University of technology (ČVUT Prague). The university and academic environment is engaged in research of industrial heritage very actively in all other countries as well. The results of their work are applied mainly in the presentation of industrial heritage and its values. In a few isolated cases, the universities take part also in the projects of conversion or revitalization of some industrial object / area – for the "enlightened" investors. (Pict. 37, 38, 39, 40)

Picture 37: Yet not long ago the old power plant of the town of Piešťany was without use and without maintenance, too. Actually, there are changing the feature for an interactive museum and experimental centre of science and technology for children and youth. The project is executing by owner EON, Západoslovenská energetika Inc. according the student's vision of Michal Ganobjak a Vladimir Hain (2009)

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(Source: Project: ADOM Studio, Ing, arch. Martin Paško. Vizualisation: Ganobjak-Hain)

Picture 38, 39: Two visions of possible reuse of released building of former storehouse of the company Chemosvit, Inc. in the town of Svit for the new feature – the Museum of industrial architecture. The diploma works were executed in co-operation with the management of the town and of the enterprise that is the owner of building

(Source: E. Baallákoová, P Šujanová , tutor: E.Kráľová)

Picture 40: National Technical Museum in Prague (CZ) are preparing the conversion of the part of released area of railway station Masarykovo nádraží in centre of Prague for Museum of railway transport

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(Source: B. Balážová, M. Bulková, tutor: E. Kráľová)

The number of successful cases by conversion reactivated former industrial buildings is still increasing throughout the whole territory. There are the realizations of smaller scale they predominate. Such, that can be handle – financially and organizationally – by one investor only or by an active group of enthusiasts people. It is significant for these results that they are realized:

- spontaneously,
- from the individual or grouping initiatives,
- at the local level,
- without assistance (often even against the will) of the official authorities or governmental bureaucratic structures.

Their initiators and implementers (often in a position of volunteers) come mostly from the range of:

- employees of industrial enterprises (also former) - mainly engineers and technologists and their family members,
- experts from the academic and research environment (Academy of Sciences, University of Technology, historic-scientific departments, environmental departments, technical research institutes, etc..),
- scientific and professional societies, professional chambers (civil engineers, architects, engineers),
- employees of museums, development agencies of localities and regions,
- experts on environment, admirers of local traditions and heritage.

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The industrial heritage is a hobby for these people. They are undertaking the steps towards the save the industrial remains outside of their professional duties. They are the enthusiasts who own initiative from, mostly in their spare time, often at own charge, give one's time to the study, documentation, presentation, designing and implementing perspectives in order to rescue and create new active use of industrial heritage.

They are those circles and personalities which are appropriate for to be reached out and mobilized also in the frame of official processes of the brown field's revitalization projects.

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Conclusions

Urban development, where the form and extent of functional use, process of natural restoration of functional or physical structure or neglecting of regeneration problem of affected areas and possibilities of their re-use for new building play an important role, requires clearly specific strategic approach. Integral part of this approach has to be an attention to regeneration of degraded functional and physical structures not in relation to the isolated problem, but, as the research has shown, as a natural component of development strategies. Strategies on a local level are especially important, but as the research of authors of this publication has shown, it often overspills the range of issues connected to the brownfield regeneration capacity of municipality, often even of large towns, and it is inevitable to count with active intervention from regional, national and many times also European level.

Brownfield areas are one of the many forms of past heritage present in our cities today. Appropriate treatment can bring benefits of various forms to the society which is influenced by the existence of brownfield areas. When choosing a methodology, approach, form of financing, strategies and basically all the steps up to the process of implementation itself, it is necessary to know as much as possible of the relevant information to make a decision which leads to wished outputs.

The dynamics is incorporated in the definition of brownfields themselves in their temporal dimension – they are parts of settlement systems whose development, re-use and general regeneration is hindered by the heritage from the past, for example the presence of dangerous substances, pollution of the environment or social and economic degradation etc. On the other hand, the sustainable revitalization of brownfields is definitely a process that is essentially medium- to long-term which is often being forgotten in the practice. This temporal dimension is the cause of many uncertainties and risks connected with dynamics of these processes framing the social, economic and environmental development. Therefore any methodology attempting to handle these processes has to be opened and flexible.

An important aspect in the revitalization of brownfields is a future use. It is significantly affected by external circumstances. Drivers that come from "outside" can play an important role not only in the effects of revitalization processes and the success of the whole project, but also in the course of revitalization processes. The context in which the whole revitalization is taking place, is of such a wide range that usually it is very difficult to influence it or adjust it to the intention, so we have to adapt to the conditions of the project, and not vice versa.

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Glossary

Abandoned

Within the meaning unused, abandoned by workers, within the meaning of currency to give up ownership

Brownfields

Brownfields are sites which:

- have been affected by the former uses of the site and surrounding land,
- are derelict and underused,
- may have real or perceived contamination problems,
- are mainly in developed urban areas,
- require intervention to bring them back to beneficial use.

Cadastral Land Register

These registers are used to record and trace the history of the property titles and related rights.

Decontamination

Decontamination is the reduction or removal of chemical agents (pollution by former industrial activities) from soil, water or constructions to a level fit for purpose and acceptable by the regulator

Demolition

Demolition is the tearing-down of buildings and other structures

Development Strategies

A development strategy is an organization´s plan to achieve a common development mission, by setting up appropriate goals and priorities, vision, opportunity, strategies/steps and threats for sustaianble development.

Developer

A physical or legal person who develops real estate, especially by preparing a site for residential or commercial use.

Environmental Risks

Actual or potential threat of adverse effects on living organisms and environment by effluents, emissions, wastes, resource depletion, etc., arising out of human activities.

Greenfields

An unbuilt area, mostly agricultural or forest land, or some other undeveloped site.

Land Use Plans and Planning Documents

Land-use planning (urban, structural, town planning) is a professional and political process concerned with the control of the use of land and design of the (dominantly) municipal environment, including transportation and infrastructure networks, greenery, public spaces and amenities in order to manage and ensure sustainable development of settlements and communities. It concerns itself with research and analysis, strategic thinking, urban design, public consultation, policy recommendations, implementation and management.

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Master Plan

Urban planning document specifying a policy or an obligatory functional use of specific plots and special layout of the development and plans on the specific plots. Planning document dealing with functional and spatial/physical structures of a settlement, mostly specifying the parameters of functional use, infrastructure and built volumes (including obligatory or excluded functions, limits and regulations).

Reclamation

Reclamation is the process of reclaiming something from loss or from a less useful condition. Mine reclamation is the process of restoring land that has been mined to a natural or economic usable purpose. Mine reclamation creates useful landscapes that meet a variety of goals ranging from the restoration of productive ecosystems to the creation of industrial and municipal resources.

Reconstruction of Buildings

Reconstruction is the process of building or creating those buildings that have been damaged or destroyed.

Redevelopment

The change of an area by replacing or restoring, modernising its old physical and functional structures, like buildings, roads.

Regeneration

The recovery process.

Rehabilitation

The process of returning the land in a given area to some degree of its former state, after some process (industry, natural disasters, etc.) has resulted in its damage.

Renovation

Restoration to an earlier condition, as by repairing or remodelling.

Remediation

Removal of pollution or contaminants from environmental media such as soil, groundwater, sediment, or surface water for the general protection of human health and the environment or from a brownfield site intended for redevelopment.

Revitalization

To give new life to existing functional, physical and social structures by different approaches.

Site Analysis

Site analysis is an inventory completed as a preparatory step to site planning, a phase of land use planning which involves research, analysis, and synthesis. It primarily deals with basic data as it relates to a specific site. The topic itself branches into the boundaries of architecture, landscape architecture, engineering, real estate development, economics, and urban planning.

Stakeholders

A person or group of people related to a site with their specific interests that have to be harmonized in order to achieve consensus on acceptability of the plans or actions. It can be a physical or legal person, such as owner, municipality, experts, citizens, NGOs, etc.

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Urban Sprawl

Urban sprawl or suburban sprawl is a multifaceted process characterized by the expansion of low-density development from urban centres towards the open countryside.

Underused Land

Not fully used land: having more potential than is currently being realized or utilized.

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