Challenges in Planning Brownfields Redevelopment
- Case of Rijeka (Croatia) –

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ABSTRACT: *The aim of this paper is to investigate how brownfield redevelopment (BR) might be approached in Croatia, based on a case study.*

This research focuses on identification, analysis of roles and the coordination of institutions and respective activities of stakeholders involved in BR at local level. Through questionnaires, interviews, other relevant sources of information and indicators of sustainable development where applicable, the research tries to answer two main questions: how the participation of key stakeholders influences success of brownfield redevelopment in the light of sustainable development and secondly what are the major factors in Croatia that determine this process to start. Two cases are presented with similar institutional and legislative frameworks in which BR happens, with differences in previous and future use, location conditions, existing risks and ownership structure.

The issue of brownfields has recently gained more attention, and through doctoral programmes the knowledge is transferred and further expanded. A few development initiatives are promoted and funded through grant schemes of the EU Integrated Pre-accession programme – IPA, giving preference to revitalization of brownfields. At the national level hot spots are identified and addressed for immediate remedial activity. Slow administrative and legal procedures related to solving property rights, lack of strategic development vision at all levels of government, participation being only formally translated into Croatian legislation as part of the EU accession process (e.g. Environmental Impact Assessement, Strategic Environmental Assessement) but not understood fully are perceived as main obstacles to development.

BR is a very concrete issue through which impact due to (non)existing development planning policies in Croatia can be examined. The paper concludes with the preliminary assessment of success of sustainable brownfield redevelopment, identification and extent of factors determining BR and recommendation for further improvement in planning BR initiatives in Croatia and possibly in the wider EU context.

Keywords: *brownfields' redevelopment, local planning, participation*

1. Introduction

The aim of the paper is to give an overview of the planning context in Croatia and present results of testing an integrated model of brownfield redevelopment in selected cases at the local level. In Europe, brownfields are commonly defined as:

> "Sites which have been affected by the former uses of the site and surrounding land; are derelict or underused; have real or perceived contamination problems; are located mainly or partly in developed urban areas; and require intervention to bring them back to beneficial use." (Land Quality Management Group, 2006);

In this research, a number of analyses were carried out including the analysis of institutional capacities (roles and coordination of stakeholders at different levels), basic determinants of brownfields redevelopment and criteria influencing priority in brownfields redevelopment process, in case of a larger number of them. This research also tried to explain the importance of leadership, stakeholder participation and their impact on the success of brownfield redevelopment actions.

1.1. Recent Research

Ferber and Grimski (2001) identify three categories of brownfield sites:

1. *Brownfields in traditional industrial areas* - as a result of the massive employment decline in the coal, steel and textile industries at the beginning of the 1980s;
2. *Brownfields in metropolitan areas* - as a result of persisting displacement pressures on peripheral areas during the urban sprawl process; and
3. *Brownfields in rural areas* - as a result of abandonment of sites related to primary economic activities in agriculture, forestry, mining, etc.

With regard to their use, additionally there are brownfields that used for commercial purposes (shops, shopping malls etc.), services (hotels, restaurants, winter and summer dormitories etc.), art & culture (cinemas, culture houses, schools etc.) and former military bases (military barracks and military infrastructure). Examples of urban and rural areas without any brownfield site are rare. Urban regeneration and problem of brownfields redevelopment are topics of interest of many authors (Adams, 2004; Brachman, 2003; De Sousa, 2004; Ferber and Grimski, 2001; Hajaš and Kuraž, 2005; Oliver, 2005; McCarthy, 2002). Brownfield sites almost always have certain negative impacts[1] (e.g. decrease of prices of contaminated land parcels). Howland (2004) has carried out a research that proved that locations with above market price, small in size and irregular shapes, with inadequate road access for modern cargo vehicles, neglected sewage and water system and telecommunication lines, and with surrounding land with incompatible use, remain unsold even more than two years.

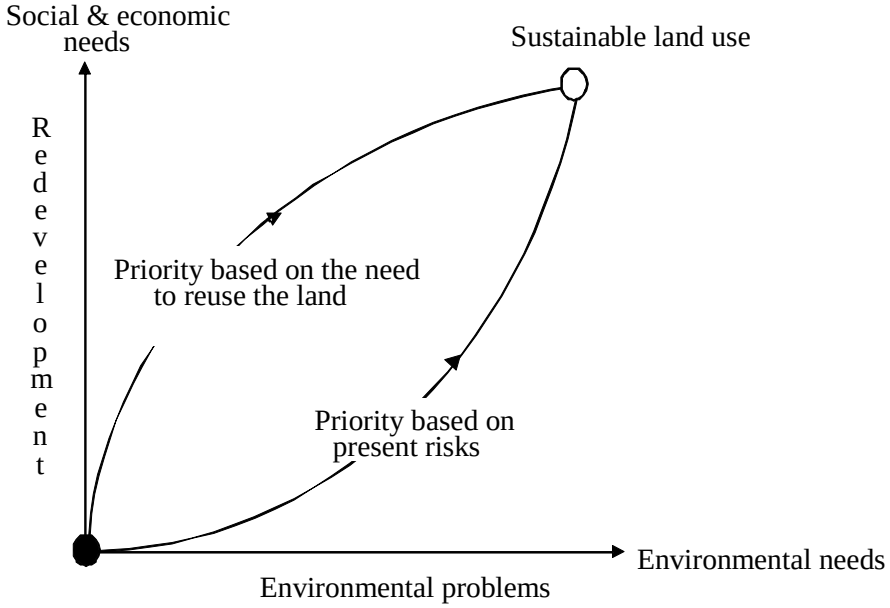
Experience from UK shows that property development industry is a key actor in UK brownfield regeneration and that there is a clear attempt to interlink ‘sustainable development’ and ‘sustainable brownfield’ policy agendas (Dixon, 2007). De Sousa,

[1] See more in Greenberg et al.(2000)

Changshan and Westphall (2009: 95) have carried out a research in which they assessed and compared the impacts of publicly assisted brownfield redevelopment projects for green space and industrial, commercial, and residential use on nearby residential property values and real estate conditions in selected cases. The results reveal that the spillover effect in terms of raising surrounding property values is significant in both quantity and geographic scope, as redevelopment led to a net increase in nearby housing prices (in both cases of research).

Policies traditionally often view contaminated land problems from two main perspectives. The first is the perspective of protection - relating to the impact of contamination on human health and environmental quality, and consequently to risks – existing and percieved ones. The second perspective is seen as a consequence of inadequate spatial planning and land use, while in the last decade or two more emphasis is given to protection of greenfields. The major trend in policy development is to address these two aspects simultaneously (Graph 1). This is increasingly evident in the development of a more holistic approach to management of urban development (Umweltbundesamt, 2002: 4).

Graph 1: Trend in policy development in European countries



Source: Umweltbundesamt (2002:5)

As presented in Graph 1, different drivers for solving contaminated land problems aim at restoring the capacity to reuse the land. Examples of development policies include different aspects:

- elaboration of national brownfield strategies;
- introduction of different incentives;

- adjustment of local planning porcedures and giving remediation subsidies; and
- giving information on possible solutions as well as about competent experts.

2. Brownfields Redevelopment in Croatian Planning Context

Besides previously mentioned causes of brownfields generation, there are few specific ones in Croatia:

- War and war consequences that led to closure of many factories;
- Trend of so called „taicoonisation“[2];
- Weak management capacities and mismanagement of former Croatian Privatisation Fund;
- Unsolved ownership issues that are created after numerous purchases and transfers of assets to new owner(s), while at the same time data on transactions made are not regularly updated.

Such locations require systematic approaches in creating their new use. Approach is based on the assumption that for the territory of a local self-government unit (LGU) a development document exists, in which future development directions and actions that will be implemented in space, taking into consideration economic, environmental and social impacts of such actions are defined. In Croatia, such an approach still does not exist and research focussed on assesment of success, analysis of determinants and risks barely exist.

Challenges in brownfields redevelopment in Croatia are influenced by the EU accession process and harmonisation of EU and national legislation framework. National Law (Act on Physical Planning and Construction, Official Gazette 76/07), prescribes procedures for elaboration and preparation of spatial planning documents and defines principles of an integral approach to spatial planning. Marinović-Uzelac (2001) differentiates between spatial plan that defines a complete space, i.e. territory, and urban plan that defines internal physical planning of settlements or towns. Table 1. shows basic documents of spatial planning against levels of government in Croatia.

[2] According to Anić (2003: 1563) "Taicoon is a person with financial power that has become rich quickly without work; new richman; in historical terms title of shogun in Japan")

Table 1: Documents of spatial planning against levels of government

LEVELS	PLAN/DOCUMENT		
State (strategic)	Spatial Development Strategy	Physical Planning Programme of the Republic of Croatia	Spatial Plan for Areas with Special Features for national parks, parks of nature and areas determined by the Strategy
County (regional) level (strategic)	Spatial Plan of County, Spatial Plan of City of Zagreb	Spatial Plan of Areas with Special Features for areas determined by these plans	
Local	Spatial Development Plan of Town/Municipality (strategic)	Urban Development Plan (implementing)	Detailed Development Plan (implementing)

Source: State Institute for Nature Protection (2010)

In the Republic of Croatia, the majority of brownfields are in ownership of the State and their management or possible impact on redevelopment, is partially or fully under authority of the national level. Therefore, the process depends on spatial-planning and development documents at all levels of government, including also sectoral ones. The most important institutions in charge of redevelopment in Croatia are the Agency for Management of State Property, Ministry of Physical Planning, Environmental Protection and Construction, Ministry of Defence and the Ministry of Internal Affairs. Besides mentioned ones, there are institutions at the national level (e.g. Croatian Railways, Croatian Posts etc.) and banks, which portfolios contain valuable assets considered as brownfields and they are physically located on the territories of LGUs. There are also entities in the Republic of Croatia, which are also responsible for activities related to brownfields redevelopment and these are: the Commercial Court, the Agency for Environmental Protection (manages the database of contaminated sites including information on contamination risks, excluding other risks present in brownfield redevelopment process), the Fund for Environmental Protection and Energy Efficiency, the Ministry of Economy, Labour and Entrepreneurship, the Ministry of Culture, the Ministry of Science, Education and Sport, the Agency for Promotion of Investment and Exports (recently closed), the Agency for Public-Private Partnership, the Croatian Bank for Reconstruction and Development, the Croatian Chamber of Economy, offices of the State administration, various institutes for physical planning, regional development agencies, counties and towns and municipalities.

2.1. Research Methodology

During the research a number of determinants are identified and these are: institutional and legislative framework, leadership, risks, location, ownerhsip and participation. In the

integrated redevelopment model, the intention is to show the relationships of a number of determinants. The model shows various combinations of factors that with regard to their attributes influence stakeholders at different levels of participation, therein on success of redevelopment. Levels of participation (based on „Ladders of participation“ (Arnstein, 1969)), modified by Duraiappah, Roddy and Parry (2005) contain nine possible levels of participation *Manipulation, Passive participation, Participation in information giving, Participation by consultation, Participation for material incentives, Functional participation, Interactive participation, Partnership and Self-mobilization/active participation*. For easier assesment and taking into consideration the level of participation, there are three possible cases of success of redevelopment:

I. not successfull – if it is ascertained that there was no participation (manipulation or passive participation, i.e. two lowest levels);

II. partially successfull – if it is ascertained that there was participation (one way) in information giving, participation by consultation, participation for material incentives, or functional participation; and

III. successfull – if there is a high level of participation (interactive participation, partnership or active participation (self-mobilisation).

The model is applied in two Croatian cases, using composite multiple case studies design[3] and tests the influence of indicated determinants, focussing on key stakeholders' participation and their overall impact on the successfullness of redevelopment. Cases are characterised by similarity in terms of their belonging to the same administrative-territorial unit (at the local, county and regional or NUTS II[4] level), while at the same time, due to their specific geographical position, they can be observed within caostal zone management approach. Based on development statistics (GDP, employment, data on environment and other indicators), reports and other relevant sources, the selected cases are put in developmental context. Developmental potential and strategic development directions of selected LGU are analysed. In this research, the survey method was used and results are processed using adequate statistical methods, mainly descriptive statistics. Beside the survey, a number of interviews were carried out, designed against type and time availability of the interviewees. This served to collect a set of qualitative information, mainly related to work of particular institutions participating in a redevelopment process. The same method was used for all other stakeholders that are considered relevant against pre-set criteria valid for each case. A

[3] Yin, R.K. (2007)
[4] Statistical nomenclature of territorial units

qualitative analysis was carried out and comparison of cases, to determine similarities, joint characteristics and differences, and derive at conclusions.

2.2. Research Context – Selection of Cases

The selection of cases was based on following facts:

- Cases which have significant impacts on society, environment and economy, on wider area than LGU;
- Primorje-Gorski kotar County and the City of Rijeka (administrative center of the County and the biggest port in Croatia) are among the most developed LGUs in Croatia, thus being interesting for analysing potentials for sustainable development;
- Rijeka is limited in terms of spatial expansion, therefore being forced to make considerable shift in management of space, focussing on brownfields redevelopment sites in the City;
- Heavy industry marked the development of Rijeka, creating certain stigma of the City as not being particularly attractive for living. It is challenging to create a vision of Rijeka that will release the stigma of a dirty industrial city and colour it by shades of desirable locality;
- Successfull redevelopment usually lasts more than one political mandate. A stable political scene is found in Rijeka and the influence of this aspect was analysed in research;
- Due to the coastal position, Rijeka has a special treatment according to the Decree on Planning and Protection of Protected Coastal Areas (Official Gazette, No. 128/2004), which limits further expansion in the coastal zone.

The research focussed on following tasks:

1. identification of existing and potential stakeholders in brownfields redevelopment in selected cases;
2. analysis of existing scope of work for each stakeholder;
3. grouping of stakeholders against levels of operation (national, county, local);
4. classification of stakeholders with regard to their interest (primary and secondary), type of power and relationships, and
5. assessment of the role of stakeholders in redevelopment processes, and their impact on the success.

Interviews (total 38) are adjusted according to levels of responsibility (half of them being at the national level) and according to familiarity with the cases. They were carried out with the representatives of the majority of subunits of analysis and the research served to identify

their roles in brownfield redevelopment processes, relationship(s) among them, if it(they) exist(s), their participation and impact(s) on the success of redevelopment. In case of Trsat, a few other ideas for redevelopment were considered:

- construction of exhibition and fair space;
- design of space with sport facilities (within the framework for Mediterranean games); and
- construction of high level residential area due to location characteristics.

The Governments' decision determined this space for student campus, while the public hearing was undertaken after this decision has been made. Even though, an idea of University campus as a good developmental direction was accepted, prior to final decision there were no serious analyses of needs or a preliminary study that would give different possible options – whether a complete campus should be built, or residential buildings and which type, or business zone(s) and which types of activities, or fair space including facilities etc. As stated by the interviewees decision-taking process was not based on regular consultations and planning, the public was not adequately familiarised, involvement of Croatian Motorways in issues of transport solutions failed and design of buildings (size, materials, overall match with a landscape etc) was not appropriate. Based on the Programme of mid-term and long-term development of the University and the Spatial programme of Campus, the selection of most favourable design project took place and the campus is now under construction.

A number of interviews were carried out with persons involved in the redevelopment of the ex factory Torpedo LtD (the main product was torpedo), that was until recently the trademark of the City. The total surface of 71.000 m² includes a few industrial halls, the majority being derelict. The general urban development plan of Rijeka (dating from 2007), roughly indicated possible development directions at the territory of the former factory and there is no clear vision how this space should look like in the future and which activities are favoured. Only part of halls was sold and afterwards put in use, as a result of investors initatives, while for the remaining halls tender was opened more than 20 times and there is still no sufficiently attractive bid. The role of the City and relevant stakeholders should be more proactive. This refers to the reassessment of the value of space, creating incentives for investments and opening a dialogue and discussions with stakeholders, which would enable easier creation of a vision of this area in the future.

Data are also collected through electronic questionnaires (in total 36 respondents, 41% of total number of respondents to which questionnaires were delivered). Some 3/5 of them, in wider sense, act at national level, while the rest acts more at the local level. Half of them

operate in the field of urbanism, 1/3 collaborate on big city projects, while a bit less then 1/3 work in one of the State bodies.

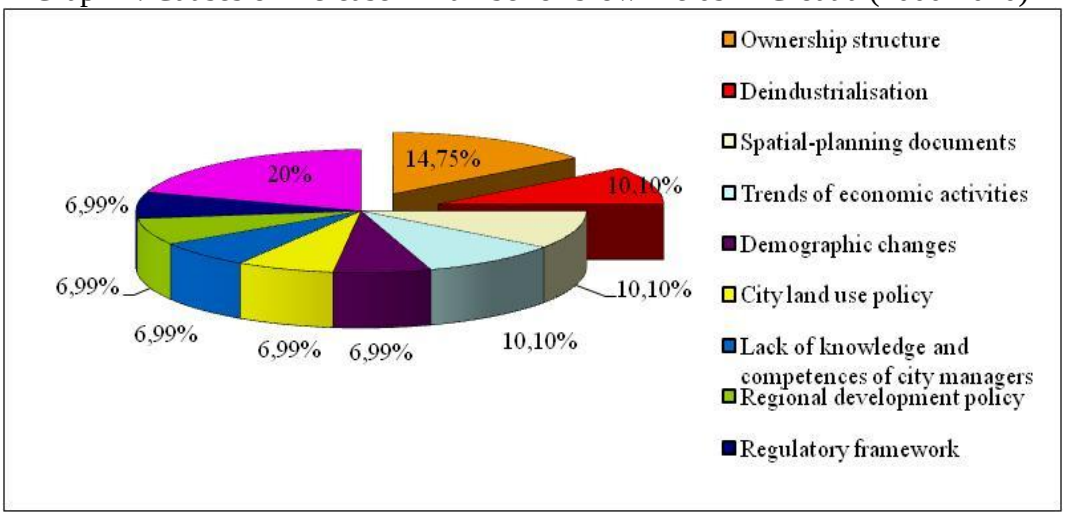
Redevelopment processes usually take long time, requiring clear strategic development directions, continuous motivation (and dedication) of those involved and stable legislative frameworks, allowing planning and especially implementation of envisaged activities/measures/projects. In June 2010, the Regional Development Strategy of the Republic of Croatia has been adopted, based on which counties have to prepare their county development strategies that contain objectives, priorities and measures to be undertaken until 2013. This can serve also as a foundation for planning at the local level, where it is necessary to identify brownfield locations and set strategic frameworks for their redevelopment in a wider context of the area.

As the most relevant cause of generating brownfields in Croatia, the majority of respondenst (1/4 of them) indicated weak property management, 1/5 indicated tranistion to market economy and decrease of certain economic activities. Besides these, bad privatisation and inadequate spatial planning policy also contributed to generation of brownfields. For location type[5] (with regard to market potential), almost ¾ of respondents, indicated type B for Trsat (even though through interviews, interviewees stated that location is very attractive and highly valued), while remaining ¼ are divided between A and C. Often response B can be explained since new use will satisfy the needs of wider community and is initiated by public sector. In case of Torpedo, due to a small number of respodents and lack of market potential analysis, it is hard to make exact statements, even though the majority indicated type B.

Half of respondents indicated that the number of brownfields in Croatia increased in the period 2000 - 2010, while the second half had an opposite opinion (this statistics is also valid for the City of Rijeka). The most frequent problem cause refers to the unclear ownership structure, which proves that this determinant can have a strong impact on the redevelopment process, especially at initial stages. Other important causes are deindustrialization, inadequate spatial planning documentation and negative trend of economic activity. Other causes represent 1/3 of responses. Responses are shown in Graph 2.

[5] Land Quality Management Group (2006) differentiates three types of sites: **A Sites**, highly economically viable and the development projects are driven by private funding, usually on very good and attractive locations; **B Sites**, on the borderline of profitability. These projects tend to be funded through public-private cooperation or partnerships; and **C Sites**, not in a condition where regeneration can be profitable and are usually located in unattractive areas. Their regeneration relies mainly on public sector or municipality driven projects. Public funding or specific legislative instruments (i.e., tax incentives) are required to stimulate regeneration of these sites.

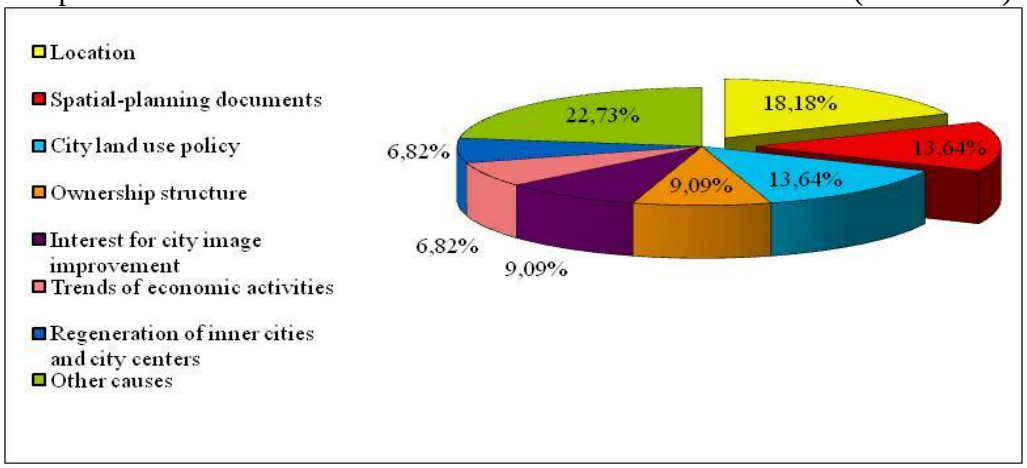
Graph 2: Causes of increase in number of brownfields in Croatia (2000-2010)



Source: Đokić (2010)

The structure of causes in the decrease of brownfields, according to another half of respondents is presented in Graph 3. Quality and attractivness of location, adequate distance from the main transport directions, usability of existing infrastructure, are only some of criteria indicating that good location is a very relevant factor of redevelopment. The second most important determinant refers to adequate, strategically justified (including tax incentives) urban policy (urban land use). Same importance is given to existing and appropriate spatial planning documentation. These two causes can be observed together – if there is a well-balanced land use policy, most probably if it is to be implemented, spatial planning exists and is most probably adequate, while such policy itself will be focussed on timely prepared and adequate planning documentation.

Graph 3: Causes of decrease in number of brownfields in Croatia (2000-2010)



Source: Đokić (2010)

Other causes refer to clear ownership structure (unclear ownership structure was one of the causes in increase of brownfields), and an interest for improvement of the image of the city. Remaining causes represent 1/3 of all other responses. Approximately the same statistical data valid for Croatia are valid in the case of Rijeka, for both groups of causes. Analysis of the structure of causes can help in creating redevelopment policy by defining priority of operations, followed by a list of concrete activities.

In a territory, a number of brownfield sites can exist and for their redevelopment it is desirable to define criteria against which they will be prioritised. In case of Croatia, results are given in Table 3.

Table 3: Criteria for Prioritising Brownfields Redevelopment in Croatia

CRITERIUM	**N=36**
Political decision	24.53%
Investment interest	20.75%
Ownership	11.32%
Level of human health risk contamination	9.43%
Available financial sources	7.55%
Level of environmental risk contamination	7.55%
Incentives (e.g. tax abatement)	5.66%
Lack of space for new buildings	5.66%
Not familiar with this information	3.77%
Initiatives/pressures of citizens	1.89%
Other (Please state)	1.89%
None of the above	0.00%
Total	**100.00%**

Source: Đokić (2010)

Almost ¼ of responses refers to political decision as the main prioritising criterium, which is most often not underpinned on previously made analyses, research or any well elaborated justification. The second priority criteria is interest of investors which might indicate that there is a lack of vision and strategic action of the body in charge for a particular location and that decision is made by external stimulus and is actually steered by investors' wishes (many times this happens as a consequence of individual interests rather than wider community interests). State of ownership in compliance to expectations with regard to previous responses and level of human health risk contamination are among the first five prioritising criteria. It should be emphasised that, the lack of finances that are many times mentioned as the key element for redevelopment, according to these responses are not among the most important ones, as it is evident from Table 3. It seems that the 'green light' in terms of political support,

followed by solved ownership issues and removed risks, complemented by financial sources, create a set of the most relevant requirements for redevelopment purposes. Incentive instruments and the lack of space are at lower levels of the priority criteria list. This segment should be paid more attention to, since it can strongly influence brownfield redevelopment process.

3. Participation in Cases of Trsat and Torpedo

Participation can occur at the very beginning, in course of or after major decisions are taken. The minimum formal level is prescribed by Law, thus the most common and expected way of public participation refers to the public hearing procedure. Besides this, in selected cases the public was involved through:

- Participation in the decision making body (most probably these persons are not representatives of the public in classic terms but their regular jobs by default allow or require from them to take over a function in such bodies);
- Participation in thematic workshops/meetings, whereby persons participating in previously mentioned bodies have a chance to participate in thematic workshops/meetings.

Other types of participation (during project design phase, in TV/radio broadcast, through newspapers or campaigns of raising awareness) are recorded at a low level. In Croatian practice, during project design phase commonly only qualified experts (mainly architects and urbanists) are involved.

Using Likert scale (five possible optiones: full disagreement, disagreement, no disagreement no agreement, agreement, full agreement), respondents assessed the level of participation (in compliance with the previously mentioned *modified* Ladders of participation). For Trsat location, relatively high share (almost 2/3) of respondents indicated the lowest level of participation (Manipulation) which can be considered indicative as Manipulation states that 'Decision makers convinced the public that recommended project of redevelopment is the best'). For Passive participation 12 responses out of 17 chose an option of agrement for this level of participation. In other words, the public got the information from an expert on what is going to happen or what has already happened. Participation by

consultation is characterised by inability of citizens' participation in decision making. The majority does not agree that this level of participation is achieved, while the smaller number agrees (three of them). For Trsat case, almost 85% of respondents either fully disagree or disagree that there was Functional participation, characterised by involvement in process through forming groups. Two thirds of respondents stated that there was no Interactive participation, in which citizens participate in joint analyses, and local people take control over the decision-making process. Half of the examined in case of Trsat do not agree that the level of Partnership was achieved, that is characterised by 'balanced division of power between local people and decision makers'. The highest level of participation, Active participation (self-mobilization) has not been achieved, as examinees indicated.

In case of redevelopment of ex factory Torpedo, due to a small number of examined persons (only five), it is not possible to make reliable conclusions. The majority of responses are in the middle – no disgareement, no agreement, which indicates a generally insufficient level of getting information and reluctance to giving opinions, while a few expressed agreement for higher levels of participation. It can be generally concluded that there was low to middle level of participation.

3.1. Stakeholders analysis

Based on available information for both cases of redevelopment, stakeholders are divided into two main groups:

1. primary stakeholders - under direct influence of redevelopment or directly influencing it, whether positively or negatively (directly influenced by potential impact of action); and
2. secondary - refers to others connected to redevelopment, not directly influencing the decisions made through the process or indirectly influenced by potential impact of action (in case that a stakeholder is „an intermediary" in the process participating in financing, implemenation, monitoring or advocating).

Both cases are similar with respect to administrative-territorial belonging (same LGU and same developmental context), B type of location, with development potential and close to city center, however requires support of public sector for successfull redevelopment. Following the aforementioned grouping, stakeholders in the case of Trsat are divided into primary and secondary, as shown in Table 4. In the case of Torpedo as represented in Table 5., whereby the double sign ++ equals to more relevant role within the group.

Table 4: Grouping of stakeholders - Case of Trsat

Level of responsibility/operation	Subunit of analysis	Primary stakeholders	Secondary stakeholders
Supranational	World Bank		+
National	Ministry of Defence of the Republic of Croatia		+
National	Ministry of Environmental Protection, Physical Planning and Construction		+
National	Ministry of Health	+	
National	Ministry of Science, Education and Sport	+	
National/County/Local	Representatives of the academic community		+
County	Primorje-Gorski Kotar County		+
County	Public Institution: Institute for Physical Planning		+
Local	City of Rijeka	++	
Local	University, Campus office, University Foundation	++	
Local	Non-governmental organisations, local community boards	+	
Local	Media: TV, newspapers, radio, libraries, Internet, promotional campaigns		+
Local	Private sector, investors, consultants		+
Local	Financial sector		+
Local	Other relevant individuals		+

Source: Authors, 2011

Table 5: Grouping of stakeholders - Case of Torpedo

Level of responsibility/operation	Subunit of analysis	Primary stakeholders*	Secondary stakeholders**
National	Ministry of Culture of the Republic of Croatia		++
National	Ministry of Environmental Protection, Physical Planning and Construction		++
National	Port Authority Rijeka	++	
National	Commercial Court	+	
National/Local	Torpedo d.o.o. (in course of liquidation)	++	
County	Primorje-Gorski Kotar County		+
County	Public Institution: Institute for Physical Planning		+
County	Regional Development Agency - PORIN	++	
Local	City of Rijeka	++	
Local	Local Community Board Turnić	+	
Local	Non-governmental organisations		+
Local	Existing business entities	+	
Local	Financial sector		+
Local	Other relevant individuals		+

Source: Authors, 2011

Based on collected data, for both cases it can be argued that there was no stakeholder analysis, analysis of types of power, potential and interdependencies, therefore a sound basis for shaping participatory processes was omitted. Since in case of Torpedo, the redevelopment process is still in course, there is a chance to improve these elements (e.g. elaborate a communication strategy that would enable a dialogue between interested stakeholders or set a communication platform for further activities).

Stakeholders can be also divided in compliance with their type of power. As Dalal-Clayton and Bass (2002) suggest (based on previous work of Filer and Sekhran (1998)), there are four types of power: Managerial power, Executive power, Bargaining power and Positional power. Table 6 shows types of power of stakeholders in case of Trsat and Torpedo.

Table 6: Types of power – cases of Trsat and Torpedo

Type of power	Characteristic	Trsat	Torpedo
Managerial power	The capacity to control the activities of other stakeholders, and thus to determine the quantity and quality of their outputs.	City of Rijeka, University	City of Rijeka, Port Authority Rijeka, Commercial Court, Torpedo d.o.o. (in course of liquidation)
Executive power	The capacity to meet the needs and demands of other stakeholders, thus increasing one's authority over them.	Ministry of Defence; Ministry of Science, Education and Sport; Ministry of Health; Ministry of Environmental Protection, Physical Planning and Construction; Primorje-Gorski Kotar County; Institute for Physical Planning	Regional Development Agency - PORIN, Ministry of Environmental Protection, Physical Planning and Construction, Primorje-Gorski Kotar County, Institute for Physical Planning, financial sector
Bargaining power	The capacity to extract resources or concessions from other stakeholders, by some combination of force and persuasion.	City of Rijeka, University	
Positional power	The capacity to secure the sympathy and support of other stakeholders, on the assumption of some common interest.	University Foundation, NGOs, Trsat Local Community Board, Technology Camp	Ministry of Culture, Local Community Board Turnić, non-governemntal organizations, existing business entities, other relevant individuals

Source: Authors, adjusted according to Dalal-Clayton and Bass (2002), on the basis of previous work of Filer and Sekhran (1998), 2011.

3.2. Assessment of Successfullness

Successfullness of redevelopment is assessed on the basis of Likert scale, whereby in case of Trsat almost 70% of respondents think that it was successfull or extremely successfull, while 16,7% of them conisder it as partially successfull. For Torpedo the majority of responses refer to partially or completely unsuccessfull – this has to be carefully interpreted since the process is not completed yet and the number of respondents is small. Furthermore, respondents assessed successfullness on the basis of three groups of indicators: Space and Environment, Economy and Budget, and Society.

For the group of indicators Space and environment, almost half of all responses refers to Fully and Optimally redeveloped space. This is followed by Improved transport connection and Human health risk contamination removed. Remaining ¼ of responses refer to all the other indicators. Among indicators of successfull development in the Group Economy and Budget, most frequently selected (in ¼ of responses), the indicator was Increase of value of adjacent properties. This is followed by indicators Increase in number of work places and number of employed. Remaining responses represent 1/5 of all responses, which can be partially justified by anticipatory assessement of value of each indicator, since the whole project is still not fully completed (changes in figures can be expected in future periods). Summarised results for the first four indicators per each group are presented in Table 7.

Table 7: Indicators of successfull redevelopment

Indicators of successfull redevelopment - Space and Environment	
Space envisaged for redevelopment is fully redeveloped	**25,00%**
Space is optimally redeveloped	**20,45%**
Improved transport connection with other transport lines	**15,91%**
Human health risk contamination removed	**13,64%**
Etc.	25,00%
Indicators of successfull redevelopment - Economy and Budget	
Increase of value of adjacent properties	**33,33%**
Increase in number of work places	**23,81%**
Increase in number of employed	**21,43%**
In compliance with the development document	**9,52%**
Etc.	11,90%
Indicators of successfull redevelopment – Society	
Improved city image	**22,03%**
Increase in number of services	**20,34%**
Increase in number of students	**20,34%**
Improved quality of life in the city	**13,56%**
Etc.	23,73%

Source: Authors, 2010

In the group Society, there are three indicators with most frequent responses and they refer to Improved city image, Increase in number of services and Increase in number of students (they respresent 2/3 of responses). Together with Improved quality of life in the city, these 4 indicators represent ¾ of responses. Since wider community would enjoy the benefits of this redevelopment project in the future, such structure of responses is expected.

Conlusions

On the basis of previously analysed data and available information, in the case of redevelopment of Trsat (Graph 4), a medium level of participation due to emphasised role of a leader and leadership (this is confirmed in a number of interviews) has been achieved. On the other hand, low and non satisfactory level of participation has been achieved in terms of financial and legal risks, i.e. there was no significant participation of stakeholders in assessment of risks and taking decision on the level of acceptable risks. Therefore it can be concluded that redevelopment in this respect was not successfull. Remaining data indicated a medium level of participation achieved through the effects of other determinants, which in total can be assessesed as partially successfull participation.

In the case of Torpedo (Graph 5), an assessment showed that there was no impact of any determinants on successfull redevelopment. This is partially a result of the existing situation, i.e. the fact that redevelopment is still in course and shortages that some determinants are marked with, thus conclusions cannot be made in its full sense. As a whole, final assessment of successfullness is between non succeessfull and partially successfull, while there is still great room for improvement of participatory processes in the context of urban development.

At general level it can be concluded that:

- Complete redevelopment actions will have impacts at local, regional and to a smaller extent at national level;
- In both cases, there was a lack of *ex-ante evaluation* (or any pre-feasibility analysis of sustainability of the results such as risk analyses, analysis of financing models, market potential analysis etc.), whereby results could considerably alleviate possible problems in future implementation;
- It is recommended to establish a good monitoring and evaluation system e.g. body/unit/team that will be in charge for regular reporting on progress (to higher officials and to public);
- In both cases it is recorded that there was actually a low level of participation (in terms of the "Ladder of participation") and it has happened rather *ex-post*;

- Participation barely exceeded the minimum regulatory requirements (in compliance with the public hearing procedure), thus it is necessary to improve participatory processes that have positive impacts on success of redevelopment initiatives in the future;
- Greenfield and brownfield redevelopment policies are still not harmonised, leaving open questions of use of buildings that will be emptied after moving to new locations;
- Success in case of Trsat is primarily a result of a strong leadership, while on the other hand lack of vision (which can be created with help of a number of interested stakeholders!) and a leadership responsible for weak results in the case of Torpedo;
- Volume, intensity and quality of participatory processes depend much on public administration in charge for particular redevelopment project. Collaborative management can strengthen these processes, and raising awareness campaigns and communication strategies can help to achieve this.

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