

TRANSFORMATION OF OLD INDUSTRIAL AREAS IN BOSNIA AND HERZEGOVINA

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Abstract. Generally located in convenient locations near city centers or along rivers, and supported by existing infrastructure, post-industrial areas represent environmentally damaging resources that need to be returned to productive use and reintegrated into the surrounding community. However, the complexity of any post-industrial renewal project is evident in the many different ways described both in literature and by designers and programmers working on or analyzing these areas, making post-industrial renewal quite difficult. Considering the purpose of this study, it was necessary to use several methods during the research, including quantitative and qualitative research methods divided into two main parts: literature review and case study. Based on the experience gained in working on the international project ReTInA – Revitalization of Traditional Industrial Areas in Southeast Europe, we came to the conclusion that the role of geography and geographers is too insignificant and not in line with global trends of the interdisciplinary approach to problem solving. Old industrial centers, especially those developed on mineral resources and unskilled labor, were once the pride and driving force of economic development in Bosnia and Herzegovina. Integration into the common European market and the transition to a market economy has led to the rapid collapse of traditional industries. The results of the research can be used in strategic planning at the municipal level, in the development and adaptation of concepts and programs for the development of territorial units, in the drafting of interregional agreements.

1. INTRODUCTION

The transformation of landscapes worldwide has raised global concerns, increasing the need to rethink landscape and protect the environment. This is especially the case of previously developed areas that are now abandoned or underused. Instead of consuming green lands, the brown lands need to be redeveloped and given new life, achieving a more sustainable urban setting. In this regard, land transformation policies have been considered an important tool for urban containment, fostering urban redevelopment and revitalization (Loures, L. & Panagopoulos T. (2007). Revitalizing a sustainable area for the development of industry in Bosnia and Herzegovina provides a new perspective on the regional development of old industrial areas. According to Kiss (2002), deindustrialization and tertiarization processes meant movement of the secondary into tertiary and quaternary activities, which is a fundamental characteristic of post-industrial areas.

Due to the accomplishments made in science, the new industrial manufacturing is growingly requiring new information technologies and financial services, and existing stereotypes of industry are changing. In almost all European countries, problems with brownfields are identified as serious and needing some political and methodological solution (Lorber *et al.*, 2016). Industrialization has taken over Bosnia and Herzegovina very late, at the beginning of the 19th century. After World War II, the

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industry in Bosnia and Herzegovina was developing on locations already marked by the pre-war industrialization. The industrial enterprises have expanded into larger areas. At the time of the Austro-Hungarian Empire, at the end of the 10th century, industrialization had started in the region occupied by Bosnia and Herzegovina. A series of location factors have impacted the scope of manufacturing: its structure, and alongside it, the basic structure of population classified by activities, as well as spatial arrangement. Amongst those, geographic-historic factors are the most important. In the natural-geographic aspect, even though Bosnia and Herzegovina has a small area, it has a significant development potential due to its combination of manufacturing possibilities of the agrarian Posavina to the north, mineral deposits, forestry-cattle-breeding, the mountains of Bosnia and Herzegovina, and its traffic position. The historic development of the Bosnian and Herzegovinian economy, that is, industry as the main factor, has gone through several characteristic periods: I – the craft-manufacturing period (until approximately 1870); II – the railway period (from 1870 to 1918); III – the interwar period (from 1918 to 1945); IV – the real-socialist period (from 1945 to 1990), and V – the period of market pre-restructuring (from 1991 to 2010) (Fig. 1) (Nurković, 2001).

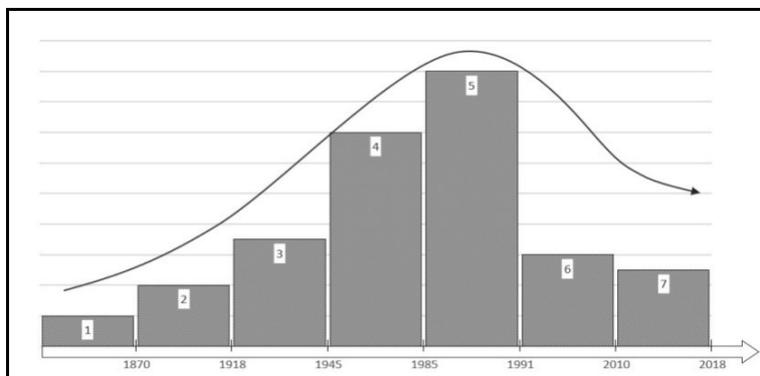


Fig. 1 – Five foundational periods of industrial development in Bosnia and Herzegovina 1870–2018.

For Bosnian and Herzegovinian economy, the first two periods, that is, until World War I, are the starting inclusion of postulates of the industrial revolution and changing of the traditional agrarian economy. In the area occupied by Bosnia and Herzegovina, which was divided in the administrative sense, and belonged to the great Habsburg monarchy structure, there were 8,000 workers in large manufacturing businesses and in the first industrial plants in larger cities in the seventies. According to the Census of 1910, there were 31,000 workers. Most workers were employed in the mines of Kreka, Kakanj, Zenica, Breza, Banja Luka, and later in companies in Sarajevo, in the salt factory in Tuzla (1886), in the sodium bicarbonate factory in Lukavac (1893), as smelters in Jajce, Kresevo, Fojnica, Busovaca, in the iron factories in Vares (the first high smelter here has started working in 1891) and Zenica, and also at Shell's oil refinery in Bosanski Brod (since 1893), as well as in numerous wood processing enterprises. Iron mines in Vares and Ljubija were especially important. They provided over 600,000 tons of iron in 1917, and had about 3,500 employees. During this period, two significant iron smelters were started in Vares and Zenica, which had approximately 2,000 employees (Grbelja, 1985). Around 50 tons of raw iron and approximately 40 thousand tons of rolled iron were produced there. Since that time, the social industry and industrial areas in Bosnia and Herzegovina have undergone significant changes and have had to face new challenges. As a result, the transformation industry, amongst the leading cities of Tuzla, Banja Luka, Sarajevo, Zenica and Mostar, has created much larger economic and social costs, it ran much slower and much less smoothly. These places represent special challenges to those who create the national and regional politics, including dealing with dangers for people, underground waters and the ecosystems. However, there also is a need to make restored places easier to integrate onto real-estate markets and to ensure their comeback with a new economic purpose.

In the case of industry, this meant radical organizational, structural, ownership, and similar changes and the appearance of foreign capital – upon which all had a large impact on the transformation of the Eastern European industry (Hamilton, 1995). Moreover, there was a small number of companies in the west, or in a certain sector, which needed restoration at any given moment (Hillman, 1992); however, in the east, the industry as a whole, as well as each individual company had to be restructured at the same time. As the result of this change, the transformation in Eastern Europe has created much larger economic and social costs, it ran much slower and much less smoothly, especially in certain parts of the region. However, there is a trend according to which changes are most advanced in capital cities, since they are the most innovative areas and they provided the best answers to economic challenges (Gritsai, 1997-a). In comparison to western cities, eastern ones face a much harder situation since they must confront the problems of economic globalization at the same time, as well as the difficulties of structural changes in all spheres of life (Kiss, 1999).

In past decades, especially in the late seventies, the industry, in general, and the industrial areas of western cities in particular, have undergone a transformation. This transformation can be basically monitored since the beginning in world economics. During the seventies three other factors were identified: the intensity of international competition; the cumulative impact on research and innovation; and the increased significance of politeness which has sped them up. Besides these factors, there is a series of others, including increased tertiarization and globalization, a lack of space in central business circles and increasing efforts to protect the human environment. They have also contributed to economic changes (Lorber, 2006). These factors have promoted savings, modernization, technical progress and an increase in efficiency, which have resulted in the restructuring of industrial production. Also, focus has been placed mostly on the development of industrial branches that require knowledge, while the significance of industries has decreased. All these processes have strongly affected the industrial areas of developed cities in the sense of the position of industry, the size of industrial companies, and the patterns of area usage. Besides this, the physical landscape has also transformed, even though much more slowly. Furthermore, there were also very significant consequences for industrial restructuring (Cohen, 1998). Many experts emphasize the concept of industry restructuring as a complex one and that it may be used in several contexts. According to Hamilton (1995), restructuring is a complex process which is made up of two opposing trends, where one of those is made up of the changes that have taken place in the industry since 1989 – changes in the scope of the industrial areas of Budapest, between 1995 and 1998; and the transformation of using land in two selected areas, between 1995 and 1998.

Finally, here are some concluding remarks. During the past decade, relevant changes have taken over the industry of Budapest, and they have had a significant impact on its areal structure. However, the industrial transformation has started much later in the Eastern European cities, only increasing in speed after 1989, when radical political changes have enabled economic and social changes.

In this regard, politics in Bosnia and Herzegovina considered land transformation important for the urban expansion and revitalization of industrial areas. However, these contributions and the principles they integrate have not been adequately assessed in terms of efforts for post-industrial land transformation in Bosnia and Herzegovina. Nevertheless, this approach may be seen as an effective approach to tackling the expansion of urban areas, which are increasingly seen as a significant and growing problem of land use, encompassing a wide range of social, economic and environmental problems. However, creation of new and more concrete legislation and the public pressure associated with the need to redevelop certain areas, would create momentum for improving post-industrial reconstruction in Bosnia and Herzegovina (Bengston, D. N., Jennifer O. Fletcher, Kristen C. Nelson (2004).

In this regard, there is an urgent need to rethink the way our urban areas grow and the different forms for reusing previously developed areas, instead of using new ones. Given this background and the current need to improve the reuse of post-industrial sites, especially those located in urban areas, this study, on one hand, seeks to highlight the importance of redeveloping these landscapes, identifying not only the benefits arising from their restoration but the main obstacles inherent in current approaches to post-industrial land transformation. On the other hand, it addresses the

differences between the public and professional perspectives on the identified benefits of post-industrial redevelopment and obstacles, taking into account at the same level, economic, social and environmental aspects (Girard & Gravagnuolo, 2017).

2. METHODOLOGICAL APPROACH AND RESEARCH

In view of the purpose of this research, a significant amount of time and attention was devoted to the development of the methodological framework, as the study required the use of several methods while performing the research, including quantitative and qualitative research methods (Loures, 2014). Generally, the two main parts are: a review of the literature and a case study that were the basis and foundation for the development of the research, which can be outlined as follows. In short, the methodology was based on the following steps:

2.1.) Literature review – Intending to cover a wide range of issues, literature review considered changes in patterns and processes that occurred through the deindustrialization process and the extremely great position in terms of planning and designing issues with major public and private benefits and obstacles to post-industrial renewal.

2.2.) Case study selection and analysis – The selection of case studies was an essential component of the research. The process was based on collecting and analyzing the same post-industrial land transformation projects as much as possible, within the boundaries set by the schedule, focusing on relatively recent projects, in which it was possible to clearly identify the main obstacles designers and remodelers faced, on one hand and, on the other hand, the direct and indirect benefits provided by the analyzed post-industrial reconstruction projects. Taking these principles into account, even if there is inevitable value judgment in any process to determine its relative importance, this method was seen as being able to bring some degree of objectivity and transparency to the assessment, allowing for the selection of cases that better fit the research objectives. In addition, since multiple case studies were analyzed during this study, it was necessary to establish a specific protocol that, according to Yin (1994), is an integrated case study review; several case studies of questions related to research objectives; and a case study report guide.

2.3.) Identification of main obstacles and benefits of post-industrial land revitalization – taking into account different types of data collected during the analysis (for example, literature review and information collected during the analysis of selected case studies), several heuristically guided factors, taking into account both obstacles, while the benefits of post-industrial landscape transformation were identified and briefly explained.

2.4.) Public versus expert perspectives regarding the main obstacles and benefits of postindustrial land transformation – taking into account the identified obstacles and benefits, research was developed both for the users of the sites of some of the analyzed remodeled post-industrial sites, and for designers, project managers and developers responsible for the analyzed renovation projects (experts).

2.5.) Data analysis – upon collection of data relating to the survey subject, a statistical analysis was developed through the first table in Microsoft Office Excel 2007 for organizing the collected data. After that, it went through a programme for statistical analysis called SPSS (Statistical Package for Social Sciences), version 17.0 for Windows, and SAS (Statistical Analysis System), version 9.1.3 (TS1M3) for Microsoft Windows. Based on these findings, we have created a model of sustainable revitalization of old industrial sites based on integrity, which prevents the re-creation of degraded areas, protects the environment and promotes social and economic development. According to Dresner (2004), among other things, it is the sustainable revitalization of industrial enterprises that establishes balanced economic growth with an environmental and social impact. This, in turn, puts the economic component at the forefront of a revival that is expected to have an impact on society and the environment. When using natural capital for revitalization, it is necessary to start from the local or regional environment and realistically explore what the environment has to offer in terms of natural capital, its positive and negative

characteristics and their impact on social and economic development (Špes *et al.*, 2012). The realistic concept of a holistic model of sustainable revitalization of old industrial areas is applicable to the industrial areas of Tuzla, Sarajevo, Zenica, Banja Luka and Mostar. The sustainable concept of sustainability of revitalized industrial enterprises in Bosnia and Herzegovina is a realistic concept of a holistic sustainable revitalization model, which stems from the complexity of development. The interactions between the components of sustainable revitalization are shown by the arrows as follows (Fig. 2).

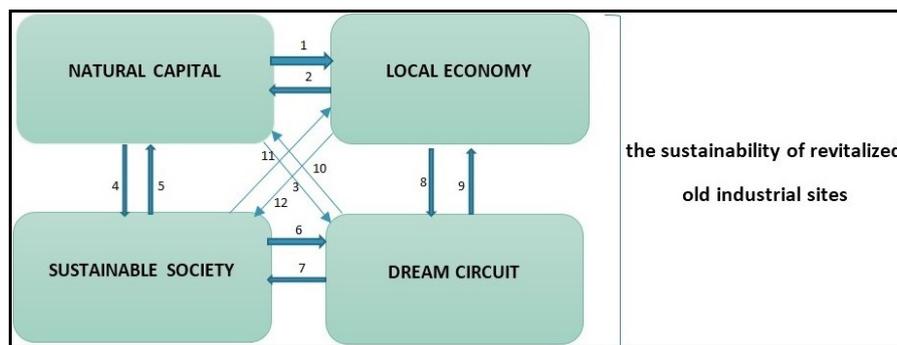


Fig. 2 – Plan of sustainability model of revitalized old industrial sites.

Source: The plan is adapted to the concept of the complex integration of sustainable development components (<http://www.eolss.com/eolss/5a.htm>).

The interactions between the components of sustainable revitalization are shown in the figure with arrow numbers and are as follows:

1. Natural capital provides the local economy with the resources it needs for efficient and sustainable development.
2. The local economy influences natural capital by using resources that must be within its carrying capacity. The economy also pollutes and creates waste.
3. Natural capital influences the material circle with its resources.
4. Natural capital provides a sustainable society with resources for living and working, as well as for healthy and quality work and living environment.
5. Sustainable societies have an impact on natural capital through changes in employment, education and awareness, as well as those regarding human needs and desires.
6. Sustainable society affects the material cycle by reducing the amount of waste and the proper re-use of waste, resulting in better information on waste recovery options.
7. The material cycle enables a sustainable society to be unpolluted, healthy and have quality work and living environment, minimizing waste and enabling energy and thermal independence.
8. The material cycle affects the local economy by minimizing the operating costs of businesses and maximizing their profits and creating a clean working environment. It allows for self-care of companies and increases employee work performance.
9. The local economy provides the material circle with resources (by-products, waste, and businesses) to set up and operate it.
10. The material cycle affects natural capital by maintaining dynamics in its ecosystems, preventing its pollution and ensuring the efficient use of natural resources.
11. A sustainable society offers the local economy a workforce, highly educated people, training, education.
12. The local economy affects a sustainable society with diverse jobs, where everyone has equal and fair employment opportunities. This is how they generate income and create social well-being.

Fully implemented sustainable revitalization enables harmony between components, which brings long-term and short-term benefits. This is achieved by establishing eco-industrial parks in which

businesses and public institutions are so interconnected that they ensure the energy self-sufficiency, as well as the area's independence. This will lead to the sustainable development of an area that can only adapt to changes in the environment (Krajnc, 2013).

3. CHANGES IN THE SCOPE OF INDUSTRIAL AREAS

After World War II, the industry developed in locations already marked by pre-war industrialization. Industrial enterprises expanded spatially and occupied ever larger areas. The industry of Bosnia and Herzegovina is extremely unevenly distributed in space. On the one hand, there is a strong concentration of industrial jobs in five municipal centers: Sarajevo, Mostar, Banja Luka, Tuzla and Zenica, and on the other hand, almost completely non-industrialized areas. Today, industry in Bosnia and Herzegovina has taken over 564 ha of the total area. This is indicated by the number of employees in the industry. In 1961, 54.3% of all employees were working in industry in Bosnia and Herzegovina, 57.8% in 1971, 58.4% in 1981, and only 35.2% in 2000. With the decrease in the share of employees, the importance of the industry in generating Gross Domestic Product has also decreased. In 1991, the Sarajevo industry had a share of 37.7%, Tuzla 21.3%, Banja Luka 16.9%, Zenica 13.9% and Mostar 10.1%, and more than 70% of all industrial workers were employed in Bosnia and Herzegovina. The number of employees decreased the most in the Sarajevo industry, from 37.7% in 1991 to 18.8% in 2018. In Tuzla it was 37.6%, in Banja Luka 24.3%, Mostar 22.5% and Zenica 7.1% (Table 1 and Fig. 1).

Table 1

Employees in the industrial areas of Bosnia and Herzegovina, 1991–2018

Industrial centres	1991	%	2001	%	2010	%	2018	%	Surface in ha	%
Sarajevo	64.620	37,7	17.223	27,2	13.275	24,2	10.969	18,8	160	28,3
Tuzla	36.651	21,3	26.951	42,6	17.990	32,7	21.979	37,6	148	26,2
Banja Luka	29.083	16,9	8.760	13,8	8.577	15,6	14.177	24,3	80	14,1
Mostar	17.432	10,1	6.888	10,9	5.540	10,0	7.056	12,0	127	22,5
Zenica	23.699	13,9	3.369	5,3	3.894	7,0	4.150	7,1	31	5,4
Total	171.485	100	63.191	100	54.853	100	58.331	100	564	100

Source: Agency of Statistics in Bosnia and Herzegovina, 1991–2018.

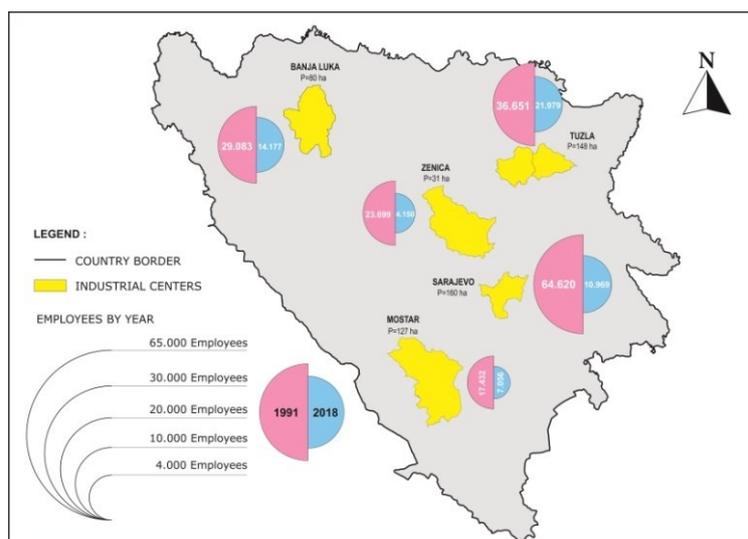


Fig. 3 – Spatial arrangement of industrial areas in Bosnia and Herzegovina, 2018.

The largest increase in the share of employees between 2001 and 2018 were in tertiary and service industries, and they account for as much as 58.4%. The largest increase is in trade, catering, financial and intellectual services (Nurković, 2015).

Changes that occurred in the industry during the 1990s also affected the industrial areas of Bosnia and Herzegovina to a greater or lesser extent and/or directly or indirectly. They promoted and accelerated the restructuring of urban space and land use, giving industrial enterprises a great opportunity to make the necessary adjustments and create a more rational urban structure. The speed and scale of change varies in each area as different firms are at different stages of the transformation process. The causes of these differences include discrepancies in the size, location and sectoral pattern of the industrial areas as well as the size of the industrial enterprises that make up the industrial zones in Bosnia and Herzegovina. In part, these factors also shape the perspectives of individual firms and each industry. There are areas that remain largely unchanged in Tuzla and Zenica, while in others there has been a significant rebuilding of the industry. Equally, there are areas where industrial activities will cease and will be replaced by creative activities with non-industrial activities and non-industrial areas. According to Chapman and Walker (1988), these changes are the natural consequences of the evolution of industrial firms and areas. It is also indisputable that the changes facing Sarajevo, Banja Luka and Mostar are not unique, even if they proceed faster, because similar changes have already taken place in many cities of developed countries (Cohen, 1998). However, each city in Bosnia and Herzegovina has its own peculiarities, which means that changes in industrial districts in different cities are diverse. According to Kiss (1999), only a few old industrial plants, mainly of real companies, were closed in Budapest.

In the industry, they practically did not hire new workers because some companies (the Energoinvest and Klass Sarajevo Factory, the Salt Factory in Tuzla, the Sodium bicarbonate Factory in Lukavac, and the Iron smelter in Zenica) were solving the problems of company employees by retraining their workers and internal reorganization. The number of new jobs in tertiary and quaternary industries has steadily increased. There is a two-way link between industrial areas and the population in Bosnia and Herzegovina and daily migrants. On the one hand, the population of the city of Sarajevo represents a potential industrial workforce, and on the other, a consumer of industrial products (Nurković and Rewucki, 2018). With rising unemployment, falling living standards, aging population and changing consumer habits, high costs of living are reducing consumption, and the demand for industrial products is declining. This is why industrial enterprises that produce for the local market tend to reduce their industrial production.

4. TRANSITIONING, THAT IS, RESTRUCTURING THE INDUSTRY

Transition, that is, the processes of restructuring the industry and society as a whole, is quite slow in Bosnia and Herzegovina, but also because it unfolds in very difficult and unusual conditions. The standard transition package, applied more or less in most post-communist countries, was completed by the World Bank and the International Monetary Fund in accordance with the principles of neoclassical economic. Transitioning from the post-communist to the market system, Bosnia and Herzegovina uses its significant natural-geographical, transport and demographic advantages. However, these processes were significantly slowed down and hampered by the 1991–1995 Balkan crisis years. The beginning of reforms of the socialist economy in Bosnia and Herzegovina begins with the establishment of macroeconomic stabilization, which is positioned as a strategic precondition for further reforms, as it anticipates inflation problems, which the IMF particularly insists on, and introduces a set of monetary financial measures: restrictive monetary policy, currency convertibility, financial discipline and tight budget constraints (Matlović, 2001).

According to (Lorber, 2010), the revitalization of brownfields provides a new perspective to the regional development of old industrial areas. The process of industrial change has emerged in the

creation of so-called "brownfields" across Europe, especially in urban areas. In almost all European countries, brownfield problems have been identified as serious problems requiring some political and methodological solutions. These sites present particular challenges for those making national and regional policies, including the remediation of human, underground waters and ecosystem threats. However, there is also a need to facilitate the reintegration of the restored sites into the real estate market and to ensure their return for new economic purposes. For the past decades, the topic of brownfields has been a particular topic of conversation in the traditional industrial regions of Europe. Countries like the United Kingdom, France, Germany and Belgium are particularly affected by neglected land, and so are most European cities and peripheral locations. The processes of de-industrialization in Western Europe and the shock of transformation in the countries of Central and Eastern Europe have destroyed many industrial places on the continent. Former economic centre communities have often become known for bankrupt companies, mass unemployment, abandoned factories and impoverished infrastructures. This wide range of different circumstances and conditions means that different strategies and programs will be needed to support remodeling. In the cities of former transitional countries, such as those in Central and Eastern Europe (CEE), brownfield conversion is of particular importance - both because of the scale of such cases and the potential of their rearrangement. Built and expanded around the requirements of command economy, CEE cities now have to meet the challenges of a market economy. Due to gradual restructuring from a planned to a market economy, the economy of Bosnia and Herzegovina has been suffering from anticipated issues in recent years: a decrease in production volume, difficult export routes, an increase in unemployment, and still insufficiently defined and fast privatization processes. In this context, the first private accumulation of capital is most likely to take place in the fields of trade, tourism and catering, finance, intellectual services and the like, with a much slower restructuring of industrial production, where a very strong dominance of state ownership and influence is still in the transitional phase. In such economic circumstances, the processes of deagrarianization, urbanization, deruralization and restructuring of the population according to tertiary and quaternary activities have been significantly slowed down in recent years (Lorber *et al.*, 2016).

Today, the sectoral restructuring of the industry in Bosnia and Herzegovina shows the difficult way to improve the legacy structure. It is still dominated by branches based on the use of natural resources and cheap labour, while high-tech and waste-free industries are developing very slowly. The consequences of an industry crisis are more or less manifested in space. Despite the crisis affecting industry in Bosnia and Herzegovina in the late 1980s, it has had a marked negative impact on the ground as we already know it in capitalist countries. Factory halls of closed industrial facilities in the City of Sarajevo are occupied by world-wide humanitarian organizations and shopping centers. Given the privatization process that began in 1999, we expect that other areas of Mostar, Banja Luka, Zenica and Tuzla will face similar problems. This will lead to the decay of industrial enterprises in Bosnia and Herzegovina, the decrease in the volume of industrial land and significant changes in the functional use of urban land (Nurković, 2006). The industrial crisis is already having a very negative impact on population and spatial development in Bosnia and Herzegovina, that is, on their expansion. In the future, these tendencies will be even more pronounced. Worsening living standards, laying off workers, increasing the number of the unemployed and unresolved housing problems for young families will mean that, in the future, fewer young people will decide to have children. Even greater social differences between individual urban settlements are evident. In view of this, the first wave of the industry crisis has hit mostly unskilled and semi-skilled workers, that is, those with lower education. It is expected that in the future the discrepancies between individual urban settlements will be deepened all the more. Finally, we must not forget that the crisis in the industry with its effects will not stop at city borders (Matlović, 2004).

The opening of new industrial facilities in the City of Sarajevo in the future should be based on the creative industries on the one hand, and on the skilled workforce on the other, that is, the economic performance of smaller companies and smaller location requirements. In connection with the former, a

small economy will grow in the future. However, priority should be given to food, chemical and pharmaceutical manufacturing plants that rely on skilled labour force. Otherwise, smaller food processing plants could be developed; milk, meat, fruit, potatoes and other vegetables whose business could successfully replace existing gaps in the Bosnian market and beyond. This would mean, among other things, opening smaller industrial plants (textiles, printing shops, construction and metal industries) in bigger locations. Many redundant workers in the industry are already opting for creative and tertiary activities: rural tourism, opening shops for locals and opening private craft workshops (laundry services, mechanical shops, shoemaking businesses, hairdressers, etc.) (Chapain, De Propriis, 2009).

These phenomena are noticeable along the regional roads: Sarajevo-Mostar-Sarajevo-Zenica-Sarajevo-Foca and Sarajevo-Tuzla. We asked the executives of the companies for their opinion on the causes behind the poor economic position of their company. They were offered 10 answers, of which only 3 were the most significant for the stagnation and decline of their businesses. They rated them using a 3 to 1-point system. In doing so, they indicated a cause that was most significant in the answer. An analysis of the responses of 4 businesses facing economic difficulties provides the following view:

1. Loss of market in the former state (54 points or 37%)
2. Production machinery obsolescence (22 points or 15.2%)
3. Difficulties in moving to a market economy (15 points or 10.4%)
4. Wrong enterprise development policy (14 points or 9.6%)
5. Inability to restructure production (10 points or 6.9%)
6. Loss of foreign market (9 points or 6.2%)
7. Poor organizational production of the company (8 points or 5.5%).

Industrial development in Bosnia and Herzegovina, in the context of future economic development, should go in the direction of positive de-industrialization, that is, in a more even number of employed workers in industry (Nurković, 2004). In the future, it is envisaged that shopping centers and new residential areas be established in former industrial areas. This category also includes abandoned industrial land whose future was not yet decided at the time of the survey. Functional changes have affected not only industrial areas but also their environment. The homogeneous industrial landscape has been transformed as a diversified land use in traditional industrial areas (Cohen, 1998). This included the renovation of existing buildings and the construction of new buildings related to the emergence of non-industrial activities. Moreover, the overall urban landscape, its atmosphere and image have been transformed by the presence of advertisements, billboards, flags and other colorful signs, which are set up mainly in those parts where trade and service functions have replaced the former industrial function.

5. CONCLUSION

The revitalization of industrial areas is of great importance for Southeast Europe. The quality and attractiveness of the urban environment is one of the crucial factors for foreign investments. If Bosnia and Herzegovina wishes to position itself on the global stage of investments, it must concentrate on solving the problem of the development of old industrial areas that are dominant in Southeast Europe in relation to other EU regions (Auer, Reuveny, 2001). Industrial sites pose particular challenges to local, national and regional policy makers in terms of making land useful again. In this regard, successful redevelopment policies and strategies need a comprehensive and multidisciplinary approach. Continuity and change are basic, intriguing elements of economic and social processes. One of the prominent problems of local development is the extent to which economic success is a permanent phenomenon and how it is maintained or reproduced in the same places. Urban development is the result of the interaction of a number of local factors and different external forces, which usually operate on a larger geographical scale.

The program of transnational cooperation, in the project *Revitalization of traditional industrial areas in Bosnia and Herzegovina*, is in line with the global goals of the Southeast Europe program, which aims to improve territorial, economic and social integration, stability and competitiveness. Using the ReTInA development methodology, we would like to ensure growth, competitiveness and quality employment in revitalized areas by preparing a series of concrete revitalizations and investment plans that will catalyze the renewal process, while contributing to a quality urban environment. In order to develop such a methodology, the exchange of information between partners is crucial. It is necessary to share and use common tools, as well as to develop common knowledge that will be used in the implementation stages. Effective revitalization of industrial areas in Bosnia and Herzegovina requires a cross-sectoral approach in which innovative strategies lead to stakeholder awareness. This in turn leads to the topic being put on the agenda of the authorities concerned. This will enable more efficient development of new problem-solving tools in the integrated approach.

Industrial revitalization is an excellent example where experiences may be transferred between EU regions, especially between western regions upon beginning the industrial revitalization in the 1980s when urban expansion resulted in inefficient land use, and between CEE countries that in most cases are just starting their transition. Using the available data, as well as literature and practical experience (amongst others, and through a special survey among the management of industrial enterprises), the basic conditions for the emergence and development of industry in Bosnia and Herzegovina are ranked as follows: supply of raw materials, industrial policy, labour, market, traffic position, micro location position, fuel and energy supply, and other external or local factors. With development programs, improving the qualification structure, restructuring production, technical, technological and organizational innovations, and redirecting exports to foreign markets, many companies in Bosnia and Herzegovina would develop competitive production faster. Natural resources and a long tradition of industry development will continue to be important locational factors.

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