

Temporary architecture incorporated into abandoned coal mine areas

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Abstract

Nowadays, there is a growing need for revitalization of abandoned areas and also to discover efficient methods of urban regeneration, namely for transformation of the former industrial zones into active and creative social coagulators. This paper describes a former mining coal extraction area, a permanent industrial structure that has become inactive and has a negative aesthetic impact. The main purpose of this paper and the research study is about knowing, evaluating and improving the viability of the post-industrial environment, using permanent and temporary investment means. By analyzing strategies and policies for sustainable development as well as examples of good practices, it is proposed to establish guidelines and ways of configuring the mining space built up, giving it contemporary aspect that would ensure the interest of the public.

Rezumat

In prezent se remarca o nevoie tot mai mare de revitalizare a spatiilor abandonate și descoperirea metodelor eficiente de regenerare urbana pentru transformarea fostelor zone industriale in coagulatoare sociale active și creative. Lucrarea de față descrie o fostă zonă minieră de extracție a cărbunelui, o structură industrială permanentă, devenită ulterior inactivă și care are un impact estetic negativ. Scopul principal al acestei lucrări și respectiv al studiului de cercetare este de cunoaștere, evaluare și îmbunătățire a gradului de viabilitate aferent spațiului construit post-industrial în discuție, utilizând mijloace de investiții permanente și temporare. Prin analizarea strategiilor și politicilor de dezvoltare durabilă precum și a exemplelor de bune practici, se propune stabilirea unor linii directoare și a unor modalități de configurare a spațiului construit minier oferindu-i un aspect contemporan care să asigure interesul publicului.

Keywords: post-industrial, built environment, reconversion, coal mine, strategies for development

1. Introduction

The research subject is about the reactivation of a built environment, an old and unproductive coal

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mine area located in Anina, a town from Romania. This place is a heavy industrial area, a permanent urban structure which has become a non economical climate.

The main goal is to reveal new possibilities for abandoned spaces, to transform them in active and creative spaces, using temporary architecture incorporated into permanent structures. To establish the main distinct cultural identities and landmarks of permanent and temporary architecture, we need to analyze the evolution of urban development under the influence of political, economic and social aspects. According to Tschumi, architecture is “an interaction of space and events” [1].

2. Some aspects of identification for the study area, town Anina



Figure 1. Anina [2]



Figure 2 Anina's location in European context [3]

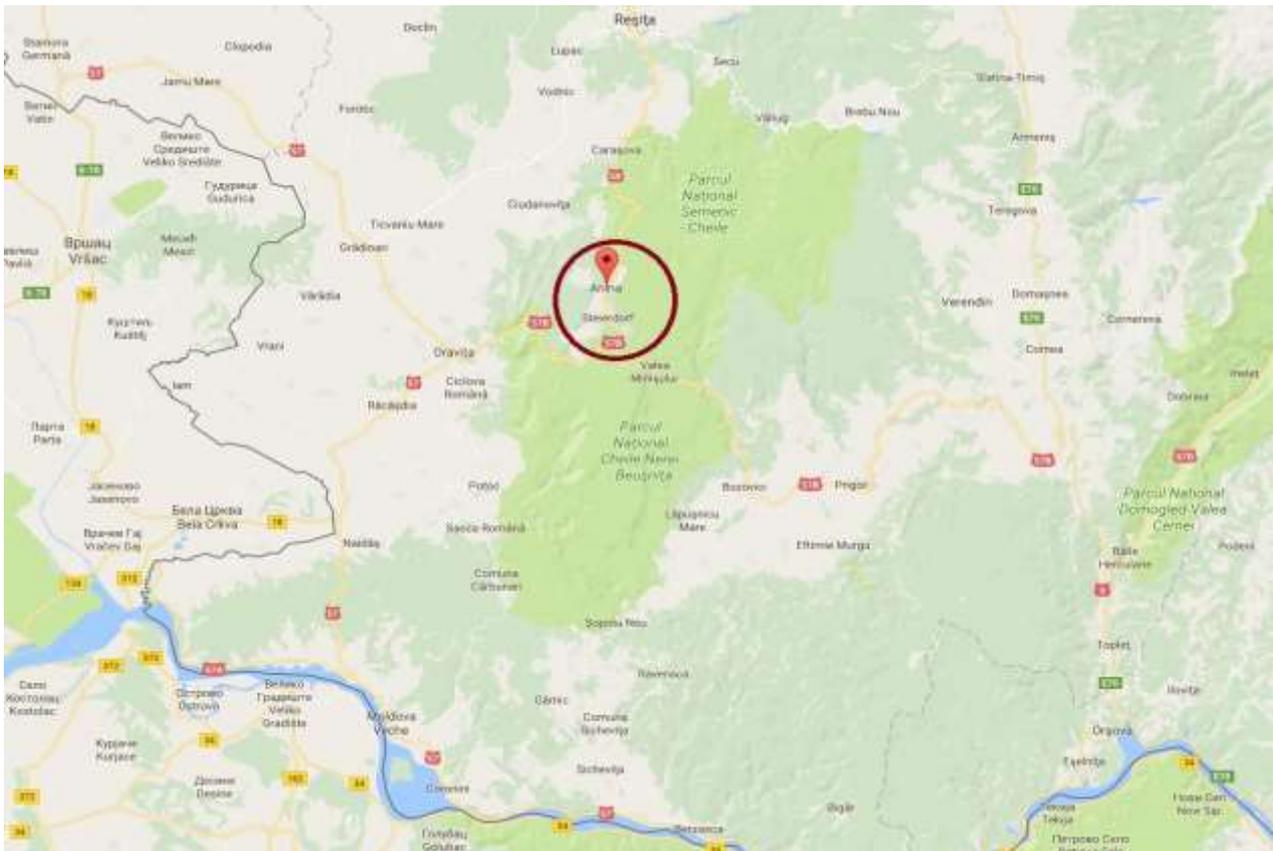


Figure 3 Anina's location in Romanian context [3]

A short geographical and historical description:

The town Anina is located in the south-eastern Central Europe, south-western of Roumania, region : Banat, county: Caraş Severin.

Banat is a region from the Pannonian Basin bordered by the River Danube to the South, the River Tisa to the West, the River Mureş to the North, and the Southern Carpathian Mountains to the East. Anina is seated in the valley of Anina mountains, in the central part of Caraş-Severin County, 36 km from Reşiţa - the county residence, at an average altitude of 645 meters. The mountains that surround the city are Anina's Mountains, which are the southern extension of the Western Carpathians. The total area of the town is 14,696 ha.

Acces points and directions of communication:

The town Anina can be accessed by road from Reşiţa on National Road 58 and from Oraviţa or Bozovici on National Road 57B. From Oraviţa, the city of Anina is linked to the oldest mountain railway in the country, also called Banatan Semmering due to its similarity in terms of constructional difficulties with the Austrian railway from Semmering. This mountain railway has a length of 33.8 km, a difference of 338 m, 14 tunnels and 10 viaducts, and is currently traversed in about 2 hours.



Figure 4. Banatan Semmering railway [4]

The evolution of the coal mine industry of Anina:

The massive extraction of coal mining in Anina, dates from the year of 1790 and has developed a production of energy coal sorted, top quality, from depth of approximately 1,200 meters extraction, one of the deepest mine in Central-Eastern Europe. In Austro-Hungarian period there is an important development of the mining industry, which is the main occupation of the inhabitants of Banat mountain. After 1989 the mining industry has entered an advanced state of decay followed by massive layoffs among miners and then all mining process from Caraş-Severin has been halted. Nowadays, all this areas of mining exploration are currently closed, in a situation of decline line, necessitating special interventions to ensure sustainability of the living area.

Anina has become an interesting study area because of the many identity elements as: the thermal power station from Crivina (Anina) considered one of the biggest and the most unprofitable project of the dictator Ceauşescu, and before that the Sommerfriche resort, made by the Austro-Hungarian Empire. Anina was an important metallurgical and energetical settlement in the context of StEG (the acronym for the "Kaiserliche und königliche privilegierte österreichische Staats Eisenbahn Gesellschaft", an Austrian-French company, founded in 1834 in Vienna, which built the first railways from Banat and Romania today and owned, until the First World War, a large part of the mountain Banat) [5]. Anina, a famous mining area, it still has an various natural resources and a good quality of coal found in the depth of the exploitation wells. All of this and much more challenges to to a complex study of this area.



Figure 5. The thermal power station form Crivina – Anina [6]

3. Policies and strategies for sustainable development

Sustainable development is first defined in “*Our Common Future*”, from 1987, also known as the Brundtland Report: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of **needs**, in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of **limitations** imposed by the state of technology and social organization on the environment's ability to meet present and future needs." [7] The main idea is to ensure a balance between the socio-economic measures and elements of natural environment, without compromises the ability of future generations.



Figure 6. Sustainable Development Goals [8]

For this study, the most relevant objectives of sustainable development are mentioned in the chapter named: “Conservation and Management of Natural Resources” part of “**Sustainable Development of the European Union**” and they are about improving management and avoiding over exploitation of natural resources, recognizing the value of ecosystem services; promoting good public health and promoting social inclusion by taking into account solidarity between and within generations, ensuring security and increasing the quality of citizens' lives. [9]

In the **Communication From The Commission Europe 2020, The strategy for smart, sustainable and inclusive growth**, includes three mutually reinforcing priorities: the development of a knowledge-based economy and innovation; Promoting efficient economy more resource-friendly and more competitive; Promoting a one-time economy high employment, ensuring social cohesion and territory [10].

The National Strategy for Sustainable Development is a document elaborated by the Romanian Government, in collaboration with United Nations Program for Sustainable Development. This is being implemented on the basis of the Memorandum of Understanding concluded between the Government of Romania and Romania United Nations Program signed in August 2008 between the two institutions 2007 and approved by Government Decision no. 1216/2007.

The Regional Development Plan (RDP) 2014-2020 for the West Region in Romania represents the results of the regional planning process undertaken based on a series of analyses of the regional context, and based on stakeholder engagement. The new development plan sets forth the region's vision and policy proposals to raise the quality of life of the citizens to a standard similar to non-capital regions in Central Europe, by 2020. Specific objectives outlined by the RDP 2014-2020 include:

- Enhancing the role of Research and Innovation
- Clearer focus on SMEs and direct investments, as well as support for high-growth enterprises in the region in smart specialization sectors;
- Improving the productivity level of the regional private enterprises. This means directing investments towards skills, innovation in the private sector, improving the competitiveness of enterprises, and orienting the regional economy towards services;
- Improving connectivity and mobility in the region by means of investing in improving the rail, road, air or naval transport;
- Identifying new tourism niches and improving the formulation of touristic offers
- Improving the regional rates of participation in secondary and tertiary education;
- Improving access to efficient health services; combatting poverty and social exclusion
- Diminishing disparities and improving the regional development capacities [11]

The Sustainable Development Strategy of Anina 2014-2020 is a reference document necessary to access the European Union funding programs and other government or foreign funding programs. It sets the guidelines for economic and social re-launch, reducing intra-regional disparities and for implementation of a lasting development and integrated zonal strategy [12]

The General Urban Plan of Anina and the local urban planning ensures the correlation of the urban development of the settlement with the plan arrangement of the administrative territory, delineated according to the law.

As regulatory technical documentation in the field of urban planning, the overall objective is to direct and coordinate land-use planning and the development of its short-term urban components and environment.

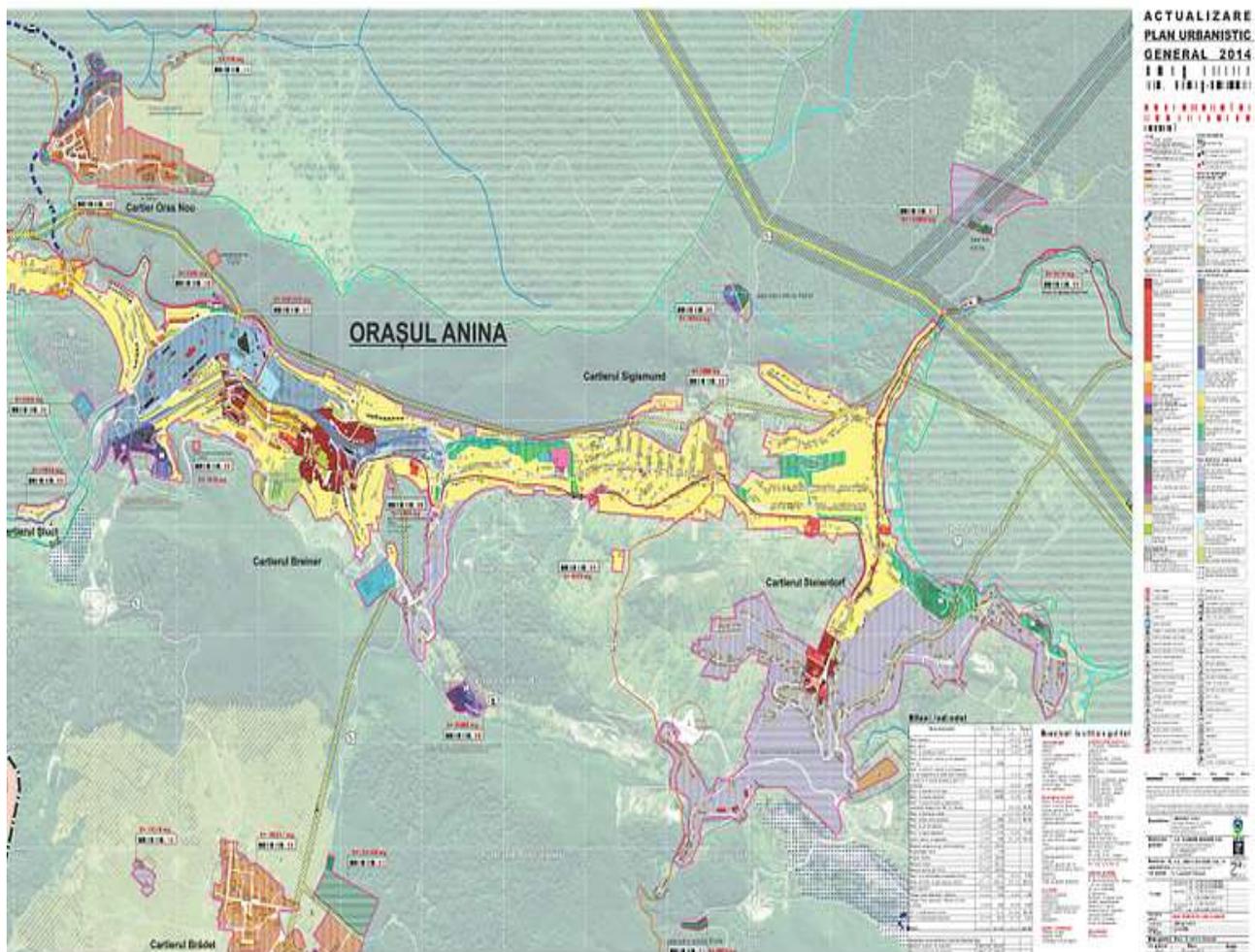


Figure 7. The General Urban Plan, Urban plan regulations [13]

Some main goals of the Urban Planning and Development Strategy of the Territory are made for establishing the directions, priorities and regulations of urban development of the administrative-territorial unit – Anina; and establishment limit and conditions of admissible land use, including data on: the regime of construction, the alignments and lateral limits, the maximum admissible construction height, and protect the historical monuments in the context which outline their historical significance

In this context of laws and strategies for urban development there are some investments in progress as permanent constructions: the rehabilitation and extension of the processing capacity of the water and sewerage distribution network; the modernization of the streets in the city and arrangement of access road to Lake Marghitaș, Marila sanatorium, neighborhood Brădet and Teresei Valley. In the last few years the mayor also provided funds for reorganization and improvements to parks and playgrounds and for the rehabilitation of buildings in the historical heritage of the city.

4. Permanent and temporary

An example of permanent investment is the rehabilitation and reconversion of a building dating since 1897, the electric power station of the entire mining area from Banat. In 1966, because of the technical and moral wear, the power station ceases its activity. Another few years ago, the power station worked only as a transformation point, but the machinery inside it are objects on the list of historical monuments in Romania, as objectives of national importance. Nowadays, after the imminent closure of the coal mine, the electric power station has undergone changes for reconversion and became a museum.



Figure 8. Interior photo - Museum of electric power station



Figure 9,10. Museum of electric power station [14]

There are a few investments in temporary architecture made for promotion of cultural events, like those for the Romanian and German traditionally dance and soloist group, for the concerts of the fanfare which is still a tradition and also investments in education for the school circles of painting and drawing. For recreational and leisure activities, the city's inhabitants have a network of green spaces that occupies from the urban area an area of 7.7 ha, meaning 0.79%. However, recreation and leisure areas are missing a series of items such as bicycle tracks, sports grounds, except the school's one, and there are only some playgrounds near collective housing groups.



Figure 11, 12, 13, 14, 15, 16 Photos for cultural events [15]

5. Conclusions:

Most coalfields where mining operations have been carried out and which have subsequently experienced economic downturns are now gray areas left out. They have lost their purpose, but not the meaning of the place. These mining sites need to rediscover their cultural identity, they need revitalization and economical recovery.

Even if permanent structures are covering the feeling of protection on a long lifetime, the idea of temporality is more exciting, so if we mix permanent with temporary architecture which is made for events and exhibitions, we get the social-cultural and economical context, all in one.

By boosting the image of good practice in sustainable planning we can help each other to develop new strategies, in a simple way to assemble a contemporary appearance with clean and modern finish.

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