

Evolution issues of built environment in a mining settlement from the region of Banat

Anca Andreia Șelariu^{*1}, Mihaela Ioana Maria Agachi²

^{1,2} Technical University of Cluj-Napoca, Faculty of Architecture and Urban Planning,
72-76 Observatorului street, 400500, Cluj-Napoca, Romania

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Abstract

The research subject is based on complex analysis of a built environment, a mining settlement from the region of Banat which faced the socio-economic decline after 1990, and the main goal is to establish directions for urban regeneration. Site characterization and interpretation as function, meaning and identity is seen as a determining factor in the composition of architectural and urban space. The procedure for identifying parts that marks the built environment starts from the historical and geographical context in which a construction industrial landscapes can strengthen and adapt programs according to the new requirements of contemporary architecture.

Rezumat

Subiectul cercetării pornește de la analiza complexă a spațiului construit în cadrul unei localități miniere din regiunea banatului, în vederea stabilirii de reglementări pentru regenerarea mediului urban care s-a confruntat cu declinul socio-economic după anul 1990. Caracterizarea și interpretarea locului, ca funcțiune, semnificație și identitate este privită ca un factor determinant în compunerea spațiului arhitectural și urbanistic. Procedura de identificare a reperelor care marchează spațiul construit pornește de la contextul istoric și geografic în care peisajele industriale miniere construite se pot consolida și adapta la programele de arhitectură conform noilor cerințe contemporane. Prezenta lucrare răspunde solicitărilor actuale, a problemelor de sustenabilitate, fiind susținută de o viziunea arhitectural-urbanistică și de preocuparea permanentă de recuperare a patrimoniului industrial, pentru a crea oportunități de dezvoltare locală.

Keywords: Mountainous Banat, mining town, urban development, built environment, industrial heritage, urban regeneration.

1. Introduction

Built environment is a term that refers to a material space, made by humans, in different shapes and forms to ensure their living. In an article about environment health, the authors Roof K. and Oleru N., defined the term of built environment as “the humanitarian-made space in which people

* Corresponding author:

Anca Andreia Șelariu Tel./ Fax.: 0040 755 800 425 , E-mail address: anca.selariu@yahoo.com ,

Mihaela Ioana Maria Agachi Tel./ Fax.: 0040 264 402 558 , E-mail address: mihaela.ioana.agachi@arch.utcluj.ro

live, work, and recreate on a day-to-day basis.” [1]

The evolution of built environment is a multidisciplinary study that includes disciplines like architecture and urban planning, history, geography, sociology, anthropology, arts and many others. The urban planning gives directions and ensures the sustainability of the ecosystem highlighting the current state of knowledge.

The territory of the Banat is situated in the southeast of Roumania, bordered by Mureş River to the north and Danube River to the south. On the east side, the region is bordered by the Southern Carpathian Mountains and on the west side is bordering with Serbia and Hungary.

From an administrative point of view, the region is composed of three counties, autonomous territorial divisions : Caraş Severin, Timișoara, and the south area from the Mureş River in Arad.



Figure 1. Map of the region Banat [2]

2. Characteristics of the site

The studied area is located in the southeast side of the region Banat, a mountainous zone with great wealth of minerals including iron, copper and most especially coal. Groundwater resources are rich in ores and minerals with significant amounts identified in Anina Mountains.

The peaks of the Mountainous Banat are the Semenic, Anina, Locvei, Almăj Dognecei mainly composed of limestone. Natural landscape Carpathian mountain and hilly areas leverages built by topography site are offering many areas with panoramic view.

Representative for this area is the local extraction mining coal in Secu, Doman and Anina, and metal deposits and copper in the foothills around the village Oravița.

Romanian mining exploration and production, has a significant period between 1700-1990, that directly and positively influenced urban settlements, bringing a high level of prosperity in development of infrastructure, social and cultural buildings.

Attestation of mining, during the 1700s, is confirmed by documents relating to investment funds allocated to the industrial mining, bills of quantities of copper extracted and manufactured products, all made from mines and metallurgical facilities in Oravița[3], stating mines to "Cornutilfa" with gallery Heilige Dreyfaltigkeit Erbstollen, Elizabeth shaft and Caroli, and mines "Cosoviza" and, Czi clova "[4]

Mountainous Banat mining landscape identifies and massive extraction of coal mining in Anina, where, since 1790 have noticed first mining exploration [5]. Subsequently the mining industry of Anina, was developed on the production of energy coal sorted, top quality, 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, but after 1989 the mining industry has entered an advanced state of decay followed by massive layoffs among miners and then all mining process from Caraș-Severin has been halted: both mines areas Dognecea Oravita, the uranium mines from Ciudanovița, Lisava, the career Doman and the coal mines from Lupac, Baia Noua and Anina.

Nowadays, all this areas of mining exploration are currently in a situation of decline line, necessitating special interventions to ensure continuity of progress.

3. Case study: Anina city

Anina is part of Caraș Severin County, that has gained city status in 1952, but is information about the village that it actually dates from 1773, as a settlement made up of working-class families of settlers from Austria. Mining was the local occupation that generated an economic and social progress, supporting the qualitative and quantitative development of built environment. After 1850 appeared the first representative buildings of the current town, followed by the development of mining constructions and modernization of technical and urban facilities.

Analyzing the built environment, it has been found that the first solid buildings of stone and brick were made in 1786, but also appeared the first school and church in the village, next to the first large residential constructions. In 1854 the town hall was built, which nowadays is a hotel in Steierdorf notary.

Nearby settlements development has gained after 1854 when was made Metals Plant in Anina Colony. Built industrial landscaping was completed by achieving technical and urban facilities, building culverts manifold drinking water from the dam and artificial lake achievement Buhui situated on a limestone ground.

Anina city is divided into four main districts which also are composed of several colonies:

1. Quarter Anina: composed of colonies, Schlucht, Celnic, Tereziei Valley and Olfabrick
2. Quarter Steierdorf: composed of colonies, Uterisch, Sommerfrische Hildegard and Sigismund
3. Quarter Brădet
4. New Town Quarter

The significant architectural landmarks are two churches Evangelical and Roman Catholic Church,

built in 1882, and considered emblems of Mountainous Banat.

By the 1913, in Anina were developed the medical services through commissioning of the largest hospital of Banat Mountain in the period until 1957 when the current clinic was inaugurated.

The industrial built environment is marked by extraction tower “Puțul 1”, the headgear house, the coal washer and sorting building.

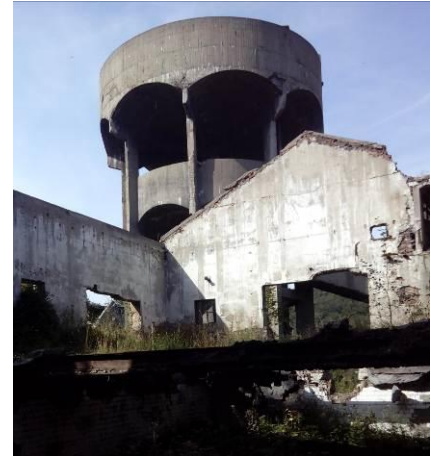


Figure 2. Town entrance

Figure 3. The power station

Figure 4. The coal washer

Anina Coal Mine was one of the largest mines in Romania, with the beginning of activity in 1792, after the first coal outcrop was discovered by Matthew Hammer.

In 2006 occurred a catastrophe, an explosion underground casualty on 14/01/2006. This situation forced the closure decision and conservation Anina mine, which caused the subsequent lack of financial income for the population and fast installation of the phenomenon of migration.

The underground mine that is now closed is a very significant one, with Austrian industrial architecture and pits still preserved, such as the Northern Pit (Anina Pit I), Pit II, Pit IV (next to the Terezia Valley), and still has large reserves of anthracite, lignite, brown coal and oil shale amounting to over 1.3 billion tones.

According to several studies and geotechnical analyzes, the city has a ground heavily affected by mining, extraction of coal from a depth of 1000 meters below the surface. Major elements that can be seen with the naked eye are dumps and ash dumps from power plant and mixed waste disposal plant, located near the village. Excavation shale visibly affected soil having a destructive effect on the village, which now requires greening procedures.

Based on field studies, the post-industrial mining built environment from Mountainous Banat region, is constantly decaying, and becoming not suitable for habitation.



Figure 5. Overview of the mine “Puțul 1”



Figure 6. The offices and coal sorting building



Figure 7. The headgear „Puțul 1”



Figure 8. The ground heavily affected



Figure 9. Dumps, ground heavily affected



Figure 10. Overview of the power station

4. Typology of residential buildings – Miners dwellings



Figure 11. Miners dwellings

5. Methodology approach of interventions and conclusions

The research methodology is focused on a complex analysis to establish directions in architecture and urbanism. Starting from the bibliographic documentation studies of development with similarities and comparisons between different types of mining settlements, in addition methods of geographical research by direct observation in the field, visits to architectural objectives and track mapping studies.

The research subject raises a couple of question marks in this direction:

- Are there any directions that will ensure the urban sustainability and regeneration?
- What's the mining activity impact on a settlement from the architectural and urbanistic point of view?
- What are the urban regeneration strategies that can be applied to mining settlements, in order to ensure their economic growth?
- Who's job is to create and apply the development strategies, architectural programs and urban planning directions, in order to ensure coherence?
- What are the main dysfunctionalities, obstacles, developing the built space from mining settlements?

There are major differences between mining cities, largely due the implementation procedure of development policies and strategic planning, which were or not required and respected as appropriate.

We must have a contribution to the improvement of urban environment, by anticipating demand community, diversifying the local economy till we develop an integral urban service.

This research paper has a theoretical contribution ensuring the supplement of knowledge in architecture and a practical contribution by informing and educating the public for applicability of development a coherent and unitary built environment reported to current needs.

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