

THE MINER INDUSTRY FROM JIU VALLEY – ENVIRONMENTAL AND SOCIAL INFLUENCES

PROF.EC.DRD. BĂDĂU ADRIAN-BOGDAN
LICEUL TEHNOLOGIC “RETEZAT” URICANI,
e-mail:badaubogdan@yahoo.com

Rezumat

Situated in the middle of the MERIDIONAL CARPATHIENS, the DEPRESSION OF JIU VALLEY represents the main pitcoal basin of Romania. In the last century, the extraction activity had a major influence on the development of the region. The influences and the effects of the miner industry can be classified in two big groups: positive effects which means the acceleration of the economical development, of the means of communication and the increase of the population and negative effects being the main source of pollution of the region.

Cuvinte cheie: mining, economy, pollution, heaps of debris

Clasificare JEL : M40, M41

1. Introduction and context study

The coal deposits of the Jiu Valley Coal Basin were discovered for the first time by chance in the 18th century and the first mining works took place during the middle of the 19th century in VULCAN and PETRILA areas.

Nowadays, the Jiu Valley Coal Basin distinguishes itself for the beauty of its landscapes, which is combined in great harmony with the richness of the subsoil. The pit coal resources have brought this area into prominence and have turned it out into one of the most important industrial centre in Romania. During the socialist period, Jiu Valley was considered one of the most flourishing regions in Romania.

Jiu Valley micro-region has lost its statute of the economically developed area as a result of shutting down the mining infrastructure and of the mono-industrialization (the mining industry being orientated mainly towards mining), being considered nowadays as a disadvantaged area.

2. The Economic and Structural Development of the Jiu Valley Coal Basin

The Jiu Valley Basin had represented until 1997 the main coal basin in Romania. Due to the development of the mining activity, the micro-region knew the most important social and structural development.

The coal extraction first occurred around 1850. At that time, the JIU VALLEY COAL BASIN belonged administratively to the Austrian-Hungarian Empire, being considered an important economic development centre because of the exploitation and capitalization of its pit coal resources. The connection between the Austrian-Hungarian Empire and the JIU VALLEY was carried out by the railway that had been built from Simeria to Petroșani, this being finished in 1870.

The development of the extraction industry in the coal basin of Petroșani was carried out at first only at the surface because of the lack of access roads and because of the lack of modern technology. Along with the increase of the demand for coal, the first investments in infrastructure occurred by the building of roads and roadways.

At the end of the 19th century, the first works at the local railway that connected Petrosani, Vulcan and Lupeni started. They were the main mining towns in the region at that time. In 1892, the railway section between Petrosani and Lupeni was finished.

After finishing that railway from Petroșani to Lupeni, an impressive expansion started; in only 8 years, the production increased 12 times, and the number of workers increased from 250 to 1500.

The development of the mining industry led to the development of the infrastructure of the JIU VALLEY BASIN. The development started with the population burst.

In order to assure the development of the region, 8 water – intake dams were built to catch the water that provided for the supplying of the towns in the western part of the region: Valea de Pesti, Braia, Aninoasa, Polatiștea, Izvorul, Stoinicioara, Taia and Jiet,

The JIU VALLEY COAL BASIN is situated in a basin between the mountains and there is danger for the appearance of floods. In order to remove this problem, many dams have been built along the Eastern JIU river and the Western JIU river.

The most important development of PETROȘANI COAL BASIN was made in the transport network.

At present, the transport network is made up of:

- a European national road DN66 – E79
- two national roads DN66A - DN7A
- nine county roads
- five country roads
- Filiași – Simeria railway
- Petroșani - Lupeni railway
- Uricani - Lupeni industrial railway
- Paroșeni - Preparația Coroiești industrial railway
- Lonea – Petrila – Petroșani industrial railway

As a result of infrastructure and roads development, many economical agents provide the means of transport for people in all the towns in the region.

The railway transport is covered by state companies, which assure the railway transport from Petroșani to Lupeni. Great investments have been made lately by building the two cable cars in order to transport the tourists to the mountain resorts of Straja and Vâlcan.

As you can now see, the building of the cable cars and the development of the mountain resorts Parâng (Petroșani Town), Pasul Vâlcan (Vulcan Town), Straja (Lupeni Town) have made the region a major point of attraction for winter sports.

Another field that has known an impressive development lately is the communication field. The most important investments related to communication have been made by building digital telephone exchanges in the area.

The power network represents another strong point for the region. You can see three types of power providers:

- thermic power produced by the Paroșeni Steam Power Plant;
- natural gases supplied by the West I main gas line ;
- electrical power supplied by the Paroșeni Power Plant .

3. The mining industry – the main source of pollution in the Jiu Valley

Although it has triggered many positives effects representing the main economic engine for the development of the region, the mining industry has been at the same time the main pollution source of the area.

The extraction activity presents unique characteristics that have an impact both on the population in that area, and on the environment, and the JIU VALLEY is not an exception, so:

- we can notice the pollution of the surface waters, and the aquatic fauna of the Jiu river has almost disappeared;

- the pollution of the underground waters whose effects affect the surface as well;
- the air pollution that led to the spoiling of the air quality;
- professionals diseases;
- negatives effects on the ground.

A major problem is represented by the presence of the heap of debris, cinders and ashes, and the mud-setting ponds, which cover large areas of the basin. The number of the heaps of debris is 38, and there are two mud-setting ponds.

The presentation and the area covered by the 38 heaps of debris and the two mud-setting ponds can be found in the table number 1.

Tabel nr. 1 The surface covered by the heaps of debris and mud-setting ponds in JIU VALLEY

No.	Placement Area	Name of the heaps of debris or the mud-setting pond	The covered area (m ²)
1.	Câmpul lui Neag	Câmpul lui Neag Heap of Debris	2.078.400 m ²
2.	Valea de Brazi	Funicularului Heap of Debris	283.000 m ²
		Puțul nr. 8 Heap of Debris	
3.	Uricani	Funicularului Vechi Heap of Debris	183.000 m ²
		Funicularului Nou Heap of Debris	

		Preparației Uricani Heap of Debris	1.000 m ²
4.	Lupeni	Galeria de Coastă Heap of Debris	49.000 m ²
		Mierlașu Heap of Debris	
		Ramura I Heap of Debris	
		Ramura II Heap of Debris	
		Ramura III Heap of Debris	281.000 m ²
		Nouă Victoria Heap of Debris	
		Veche Ileana Heap of Debris	
		Nouă Ileana Heap of Debris	
		Preparației Lupeni Heap of Debris	221.000 m ²
5.	Vulcan	Cinder and Ashes Heap Căprișoara	460.000 m ²
		Rezervă nr. 1 Mud-setting pond	100.000 m ²
		Ramura III a Minei Lupeni Heap of Debris	
		Tericon 630 Heap of Debris	53.400 m ²
		Funicular Heap of Debris	
		Valea Lupului Heap of Debris	
		Valea Arsului Heap of Debris	
		Tricoane Heap of Debris	343.000 m ²
		Puț 7 Vest Heap of Debris	
		Coroești Heap of Debris	167.000 m ²
6.	Aninoasa	Funicular Sud Heap of Debris	52.300 m ²
		Tricoane Piscu Heap of Debris	
		Iscroni Heap of Debris	25.000 m ²
7.	Petroșani	Puț auxiliar nr. 1 Heap of Debris	
		Puț auxiliar nr. 1+2 Heap of Debris	126.900 m ²
		Plan Înclinat Heap of Debris	
		Tericom PA3 Heap of Debris	
		New Heap of Debris	
		Old Heap of Debris	19.200 m ²
8.	Petrila	Livezeni Heap of Debris	10.000 m ²
		2 Est Heap of Debris	
		U.P. Petrila ramura 1, 2, 3, 4 Heaps of Debris	112.000 m ²
		Petrila Mud-setting Pond	90.000 m ²
		Valea lui Coirt Heap of Debris	200.000 m ²
		Defor Heap of Debris	
The total number and the total area covered by heaps of debris		38	4.665.200 m ²
The total number and the total area occupied by mud-setting ponds		2	190.000 m ²

Source: *Environmental Bureau SNH: 2013*

As it can be noticed, the heaps of debris, cinder and ashes and the mud-setting ponds in the JIU VALLEY cover large areas, but unfortunately, these areas cannot be used any longer, representing real hazards for the landscape. Because of their structure, those heaps of debris affect all of us as well as the environment.

Another big problem, which appeared because of the industrial activity in the JIU VALLEY, is the fact that many relief distortions can be noticed. They have affected the surface infrastructure.

4. Conclusions

As you can see, the extraction activity in the JIU VALLEY has played an important part in the development of this area, but at the same time, it has been the main pollutant agent. In order to achieve a harmony between the environment and the mining activity, we can identify solutions for the negatives effects,

such as:

- greening and reusing of the affected grounds;
- identifying new exploitation and capitalization methods of the coal deposits which should cause less pollution;
- carry on the investments and the economic development of the area in different economic directions;
- considering the touristic possibilities of this micro-region, a study is recommended to find new solutions to use the mining activity for touristic purpose, to create a link between the two riches of the JIU VALLEY: coal resources and touristic possibilities

5. Bibliografie

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