

## TRENDS OF INDUSTRIAL RECONVERSION IN THE LAND OF THE *MOȚI*

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**ABSTRACT** – Our paper presents an example of a regional development strategy where wood industry and mining still ensure the functionality of the region. The strategy we have presented may be expanded to territories where industrial reconversion has called for the breaking up of traditional economic branches.

We have concluded that the economic specificity of the Land of the *Moți* relies on these two industrial branches (mining and wood processing), even if, some severe restructuring has been taking place.

**Key words:** Land of the *Moți*, trends, industry, reconversion.

### THE GEOGRAPHICAL REGIONAL SYSTEM OF THE LAND OF THE *MOȚI* LAND -LOCALISATION AND FUNCTIONALITY

The geographical space that is the focus of the present study is characterised by a variety of specific features (*language, physiognomic attributes, behaviour, toponymy, and ethnographic elements, economic activities, households, relief, and a loaded past, etc*), that decisively contribute to creating a specific ethos of this region.

The Land of the *Moți* is delimited according to some rigorously chosen criteria (*self-identification, specificity of economic activities, ethnographic elements, social and historic evolution, the density of the rural settlements, and the relief*), that individualise it as a „land” type regional entity, in the central area of the Apuseni Mountains (Figure 1). The land is located in the superior area of the Arieș River basin. Its main centre is in Câmpeni and there is a secondary one in Abrud. All the regional mass, energy, and information flows are oriented towards these centres.

The limits of the Land of the *Moți* are sinuous and they are on the line of the highest peaks of the surrounding mountains. In the southwest, the west and the northwest, this line follows the highest peaks of Găina and Bihor Mountains (e.g. Găina, Bihor, Biharia, etc.). In the north, the northeast and the east, the limit is situated in Gilău and Muntele Mare Mountains, on the following peaks: Bătrâna, Petreasa, Balomireasa, Muntele Mare, etc. Then it continues southward on the Arieș Valley, at the interfluvium between the Ștefanca and Mușcani Valleys, then it follows Vârșii Mari and Geamăna Peaks. To the south, the limit is situated on several other peaks, such as Petricea, Brădișoru, Vulcan, etc, then it ends towards southeast where Răchita and Știubei Peaks are situated.

Between these limits, the Land of the *Moți* is constituted of two urban centres (Câmpeni and Abrud) and 14 communes with their villages: Albac, Arieșeni, Avram Iancu, Bistra, Bucium, Ciuruleasa, Gârda de Sus, Horea, Poiana Vadului, Roșia Montană, Scărișoara, Săhodol, Vadu Moșilor, and Bistra.

The territorial system of this regional geographical entity can be divided into *two functional subsystems* different in rank and importance. The former is *the forestry subsystem* situated on the superior valleys of the Arieșul Mare, the Arieșul Mic, the Albac, the Gârda Seacă, and the Bistra Valleys etc, a subsystem that is relatively more important. This is due to the greater volume of mass and energy within the

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main system. The latter is the *mining subsystem* situated only in the Abrud River basin. This subsystem undergoes an involution at present, but it has a great potential for development by revitalising the gold exploitation, which implies significant financial investment both from Romania and from abroad.

The Land of the *Moți* is an open geographical system that is involved into great exchanges of mass, energy, and information with the neighbouring regions and with several others situated at some distance.

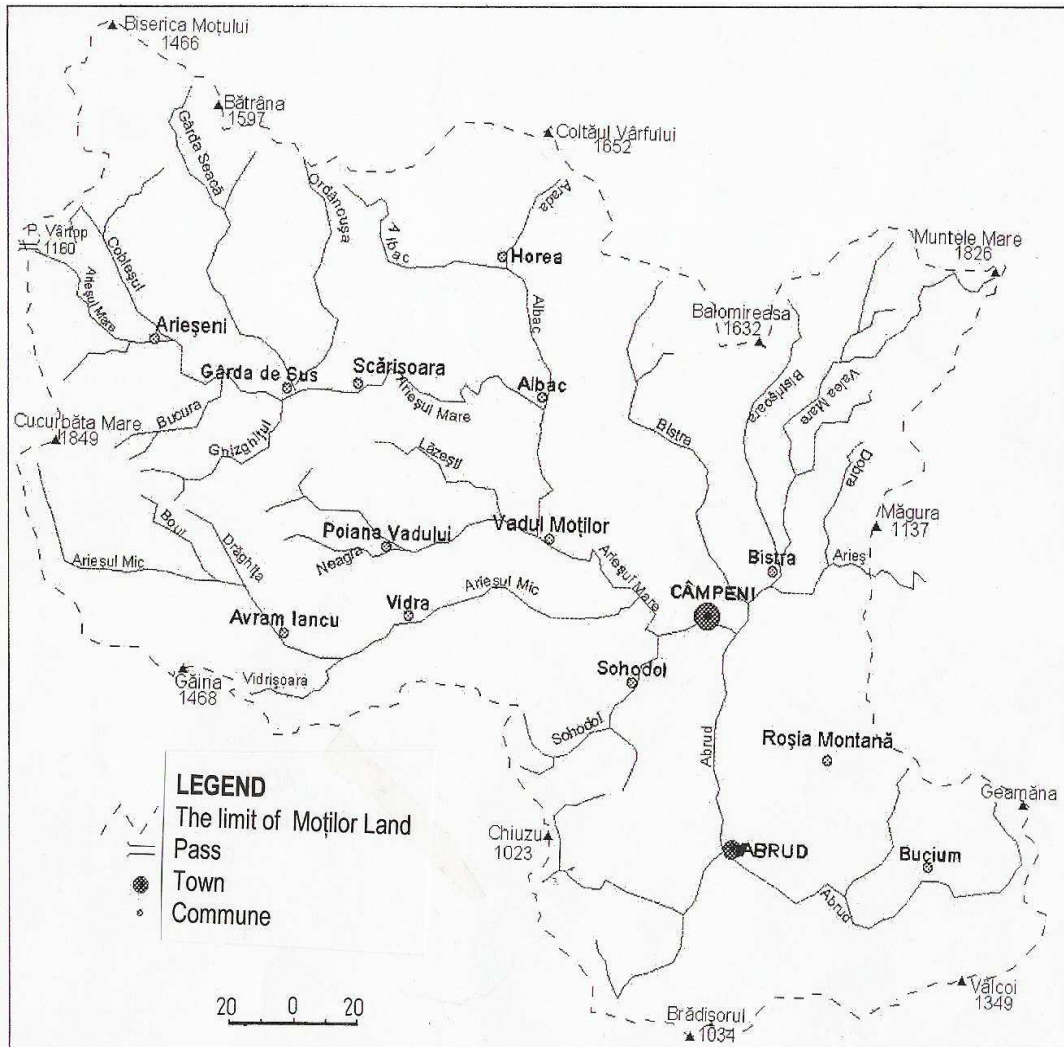


Fig.1. The Land of the Moți.

The importance of the anthropic component is to be noticed when discussing this „land”, as we consider that it has had the greatest impact, greater than in any other of the Romanian „lands”. This is because of two economic activities with high impact: *forestry and wood industry*, on the one hand, and *mining and gold processing*, on the other hand.

### FORESTRY, WOOD INDUSTRY AND THEIR ROLE IN THE ECONOMIC DEVELOPMENT OF THE REGION

Resources are an essential component of a regional geographical system because they are the main support of its economic development. In the Land of the *Moți*, the importance of *the forest* (of wood) is overwhelming. Along centuries, it has been transforming the inhabitants into a famous human entity because of the way in which they have been using this resource. *The gold* from the Abrud-Roșia Montană-Bucium-Cărpiniș area has relatively the same importance (more obvious in the past, but it still has a strong present and future impact). Gold has been exploited since the Roman period. These two resources – *the wood and the gold* – are the generating forces in constituting the two above-mentioned economic subsystems of the

region. These two main resources are complemented by a third one: *the meadows (the natural meadows and the secondary hay fields)*. Their extension and quality determine the intensity of a third activity: animal husbandry, which ensures much of the people's food supply.

Among the elements that have been influencing the life of the inhabitants in the Land of the *Moți*, and of the Romanians, in general, for centuries, *the forest* has had an important role. During the peaceful periods, the forest has had a decisive and daily influence upon the inhabitants' life in this region. The native of this region has a special name: „moț”. His household, his sheepfold, his mill, and the archaic form of his church, his furniture, his tools and his weapons, his means of communication on land and water, as well as many of his customs, his spiritual life, his literary and artistic creation are all related to the forest. Thus, (from more than fifteen hundred years) since the Roman legions left Dacia, in the Land of the *Moți* there has been a *wood civilisation* with specific forms.

As a commodity (processed or not), the price of the wood has had an ascendant trend. During the Early Middle Ages, when the population was relatively scarce, within the context of the extended forest, the price of wood was very low. Therefore, anyone could use the wood for his household needs, cut or burn the forest in order to gain land for cultivating plants or breeding animals. The price of wood has been increasing progressively, due to the numerical increase of the inhabitants and the higher degree of processing. The *moți* are well known for the products that they have created for centuries (this phenomenon is drastically decreasing now). That is why they have had to descend from their mountains to exchange or sell their products.

In *Moșilor* land, *wood* has been the main resource for the inhabitants' existence, *an existential monopoly*. Wood has been transformed into valuable products which people have transported to the lower field areas. In exchange, they have received cereals and several food products. When the number of the inhabitants increased significantly and the markets started to expand, the peasants' right to cut the local forest was limited and then they were prevented from this activity (in the second half of the 19th century). At the same time, the price of wood increased as people noticed that wood could be used not only for their houses, tools, vessels, weapons or in order to obtain coal by burning it (as in the Middle Ages), but also to obtain, chemically, such varied products as paper, tar and acetic acid.

Therefore, nobody will be surprised that the forest, so much close to the heart of the *moț* for centuries, has influenced the inhabitants' literary creation in this region. Similarly, the Romanian people's artistic sense has used wood, much more than stone as its favourite material. The houses and the churches, the tools and the wooden objects characteristic of the household of the *moț* are a proof. Even Horea, one of the leaders of a peasants' revolt (in 1784), was a talented builder of wooden churches.

Maybe, the most important element of social cohesion and unity in the thinking and the reactions of the *moț* have been *the forest* and, most of all, the sense that he, together with his neighbours, is the owner of the forest.

The inhabitants of this region are, firstly, related to forestry and wood processing, and secondly, to mining. In the central part of the Apuseni Mountains, *the home industry of wood* is very old and diverse. It is also influenced by the abundance of this resource, as well as by the low income that the people have from their secondary occupations (e.g. agriculture). Thus, the *moț* has been obliged to become a good wood worker who can manufacture all kinds of wood products. This old occupation has led to the identification of the *moț* with his forest, so that, in certain periods, not even the perspective of a better life could determine him to give up his old occupation.

I. Popa (2003), presents the close bond between *the moț* and his native region. Those who left for America for a better life could not make it without their home and came back after 2-3 years' work; similarly, while travelling all over the country in order to sell his products, *the moț* has seen more welcoming places than his native one, but none can attract him, so that he has come back to his dear mountains and forest. This profound bonding between *the moț* and his mountains and forest also explains the failure of colonising him in the proximity of the western border of Romania where, although he received fertile land, he stayed only during the agricultural season, while spending the rest of the time at his household in the mountains.

From what we have presented so far about the importance of wood for the Land of the *Moți*, one may notice that the tradition of forestry and wood processing has an overwhelming importance for the every-day existence of the people in this region.

The way in which the inhabitants reacted when they were in the situation to lose what was their most important good – *the forest* – was fundamental in order to understand what the appearance of a „plot of land” meant. It is the real *moț* who has fought for this resource. The forest was perceived as a sacred property by

the *moș*. That was why significant social movements (proof of the social cohesion of the local people) took place (e.g. in 1784 and 1848) in order to defend their forest from foreign rulers.

Small scale wood processing and the manufacture of handicrafts go back to very old times. But industrial scale wood processing is very recent in the Land of the *Moși*. Close to Roșia Montană, in Câmpeni, such an industrial unit has been functioning for several decades and at present, it employs about 1,000 people. After 1990, other smaller units that exploit the „green gold” have appeared in Câmpeni.

“MONTANA” S.A., a business located in Câmpeni (at 7 km distance from Roșia Montană), deals with forestry and manufactures furniture to be exported. Its trade partners are from France, Great Britain and the U.S.A. This firm has been involved in some projects targeting great investments. Such a project, where Denmark is involved, is destined to save energy (approximately 1.6 million \$). Or there is another project for the modernization of the furniture factory (approximately 12 billion lei). At present, this business has 984 employees, more 300 persons will be employed (*if this society benefits from fiscal facilities similar to those granted to the Gold Corporation*), and the value of its activities is huge.

Another example is “TRANSILVANIA” S.A. (in Câmpeni), an exclusively Romanian business specialized in furniture. The main beneficiaries are from France, Germany, and Great Britain. It has received PHARE funds, as well as other financial resources. Founded in 1994, it has grown from three employees to 215, at present. *The manager of this firm is for creating a new unit and, thus, new jobs, but support is wanted from the local and the central authorities.*

In conclusion, wood industry, due to tradition and to the quality of the products, can be the most viable possibility for the economic development in the Land of the *Moși* if the resource is adequately managed from the point of view of its quantity.

## **GOLD MINING INDUSTRY – PAST, PRESENT, AND FUTURE**

A different profile from the above-mentioned one has appeared in the Land of the *Moși*, in the Abrud Valley basin. The specificity of the economic activity in this valley has made several authors consider that two “land”-type geographical entities can be individualised in the centre of the Apuseni Mountains: a “land” whose specificity is given by forestry (the Land of the *Moși*) and another whose specificity is given by mining (the Land of Abrud). We do not agree with this way to individualise the so-called „Land of Abrud” because it is a subsystem of the Land of the *Moși*.

The importance of gold mining in the Land of the *Moși* is closely related to the appearance of this regional system due to the population fluxes caused by this activity, the intensity of the energy caused by the great value of gold, and the instability that it induces in the system at present.

### **Considerations upon the Evolution of Gold Mining and Its Importance in Time**

#### *a) The Pre-Roman Period*

In Romania, besides copper and related to it, *gold* mining and processing have been important for manufacturing jewellery since Late Neolithic (Maghiar, Olteanu, 1970). Gold objects have been discovered in the settlements of different cultures (e.g. Gumelnița, Decea Mureșului) and in those from Ariușd (the Cucuteni culture), where the oldest gold object from Transylvania has been discovered (an open ring). Initially, the gold from the river valleys and the river sand was used. The gold mines appeared during the Copper Age. Unfortunately, the traces of the gold prehistoric exploitation cannot be identified as the later exploitations made this impossible (they „erased” everything). Especially, the Romans who exploited all the mines with former exploitation traces, on a large scale, made it impossible to know the prehistoric mining sites. Nevertheless, there are some clues indicating the existence of gold mines in Transylvania, in the prehistoric age. Such an essential clue is the great number of gold objects that have been discovered in Transylvania.

#### *b) „Mining Industry” in the Land of the Moși during the Roman Period*

At the beginning of the 2nd century (A.D.), after a courageous resistance of the Dacians, the Roman army succeeded in occupying Dacia. The Romans were very interested in mining, especially in gold mining, so that they continued exploiting this metal both with the help of the natives (as connoisseurs of local mining) and with the help of those they colonised and with the slaves brought for this activity *ex toto orbe Romano*. After a very fast development for 60 years, the mining industry of Roman Dacia underwent involution

caused by the Marcromanic Wars between 167-180. Under the rule of Severus, the economic life, in general, went back to normal and after approximately a century it underwent a crisis during the rule of Gallienus.

During this period, gold was exploited at *Bucium* and *Roșia Montană*, on the territory of the contemporary Land of the *Moți*. An important consequence of opening the Roman gold mines in the Land of the *Moți* was the appearance of the foreign population fluxes. The first colonies of miners appeared in *Roșia Montană*, where the *Pirusts* were brought; in *Bucium*, the Romans colonised *Dalmatians* – the Dalmatians were brought by Trajan as soon as he occupied Dacia. The Dalmatian mining colony was located on *Corabia Hill* in *Bucium*, and the metal was exploited both in quarry and underground: „Nothing is more obvious about the importance Trajan gave to the gold region from the Apuseni Mountains, than the military defence line that surrounded these mountains so that gold could be exploited calmly and safely” (Maghiar, Olteanu, 1970).

Vestiges of the Roman exploitation have been discovered in *Roșia Montană*, *Bucium*, and *Corna*. Traces of houses from the Roman period have been discovered in these places, besides those on the *Găuri* and on the *Lety Hills* in *Roșia Montană*.

The Roman name of *Abrud* was *Alburnus Minor* as in its proximity there was a small gold mine. They also named *Roșia Montană*, *Alburnus Major*, as the greatest exploitations were there. These exploitations were older than the Roman conquest of Dacia. They extracted great quantities of gold from the hills of this commune (especially from the *Cetatea Hill*) and the traces are visible even today in the three excavations called the Roman fortresses and in the underground mines, as well. In *Bucium*, the Romans also had many gold mines. The most important was on the *Vulcoi-Corabia Hill*, where the exploitation started in a quarry (at 1,300 m altitude) and then descended into the underground exploitations to about 200 m (the „*Ieruga scursura*” gallery). There, the Roman exploitation was so intense that *Corabia Hills* seem split into two.

The administration of the mines was at *Ampelum* (*Zlatna*).

The most important Roman gold mines were in *Roșia Montană*. In those mines little waxed boards have been discovered which testify (in Latin) about the existence of this activity. On the other hand, the Romans were also interested in obtaining gold through the washing method from the sand in the riverbeds. In the Land of the *Moți*, on the *Arieș* and its tributaries, there are Roman remains of the washing method used to obtain gold from the sand. The technique used by the Romans in the province of Dacia was not different from the method used all over the Roman Empire, especially in the mining centres from the Iberic Peninsula. The galleries (*cuniculi*) were delved only with the chisel and the hammer.

The water from the galleries, which were dug aslant, is evacuated with buckets or with the help of a hydraulic wheel, or with Archimedes’s screw. From the vertical shaft pit water is evacuated with a skin. The mines are illuminated with earthen lamps (many have been discovered in *Roșia Montană*). Because of their exceptional importance, the mines belong to the emperor who can lease or directly exploit them and the benefit may be given either to the reserve of the Empire or may be sent to the emperor himself. Still, several private mines exist in *Roșia Montană* and on the *Vulcoi-Corabia Hill* (*Bucium* commune).

#### *c) The Continuity of the Mining Activities in The Land of the Moți between the 4<sup>th</sup> - 9<sup>th</sup> centuries*

When the Romans left Dacia, the official mining activity was interrupted in Transylvania. The mines were abandoned; many were destroyed and could be only partially used. The gold was exploited by the local population only for its needs.

#### *d) Mining since the Middle Ages up the Present*

Gold and silver exploitation developed considerably during the Middle Ages. After Transylvania had been conquered by the Hungarians, German miners were colonised in order to capitalise this subsoil resource. At the beginning of the 14th century, the most important gold and silver mines were in: *Baia de Arieș*, *Băiuș*, *Cavnic*, *Baia Sprie*, *Abrud*, *Roșia*, *Baia de Criș*, and *Păuliș* etc. During this period the mining activity was characterised by phases of evolution and involution (caused by the favourable or the restrictive historical conditions) that are to be recognised, in a diachronic perspective, as *the period between 1848-1918; the period between the two World Wars; and the period after 1944 up to the present day.*

#### **The Extant State of the Mining Sector in the Land of the Moți**

The transition from the centralised economic system to a market economy has brought about major changes in the economy of this region. Several economic units have ceased their activity; others function at a low capacity as a result of the restructuring and the reorganisation process. At the same time, the free initiative has allowed the appearance of several private firms dealing, especially, with commerce and

forestry. The mining industry which used to offer most of the jobs in the past is in decline now and has drastically reduced its activity. Unfortunately, the results of these changes are negative: the economic activity has decreased; the job offer has decreased as well; unemployment is a common phenomenon now. Whereas before 1989, it was inexistent; the people's income and living standards decreased and have a negative impact upon the quality of life, the health and the demographic indicators are situated at levels one should worry about.

For instance, Roșia Montană is a commune with 16 villages and has a surface of 42 km<sup>2</sup>. The total population is 3,872 and in 2004 the average number of employees was only 453. In the same locality, the average number of employees in industry decreased from 1107 in 1996, to 404 in 1999, and to 360 in 2004. The greatest decrease was in the extractive industry: from 1077 persons in 1996, in 1999 there were only 390, and in 2004 there were 332 persons. With the exception of trade, electric energy, finance and banks, public administration and education, in all the other fields of activity, the number of employees had a descending trend up to the end of the 20th century. On the other hand, the demographic indicators in Roșia Montană, in the same period, had a similar involution. Thus, the total population decreased from 4,137 persons in 1996, to 3872 at the 2004 census (a decrease of about 7 % during only 6 years); the number of newly born children decreased from 41 in 1996, to 32 in 2004. Similarly, the ageing process of the population amplified: over 24 % of the inhabitants were 60 years old or older.

At present the main activity is mining which has been done only in quarry since 1985. In 1990, in mining there were only about 1,500 employees. Due to the decrease of state subsidies and the successive redundancies, in December 2004, only about 700 miners were still working, out of which, about 330 lived in Roșia Montană.

In the future, another 200 miners are going to lose their jobs, and their total number will not exceed 500 persons. At present, 153 persons are unemployed, about 50 of them no longer receive financial help from the state and they have not been able to find another job. Thus, over 200 persons able to work do not have a job. The degraded economic situation is also obvious in the fact that, other 80 persons in the commune still live on the financial aid from the state. 196 persons and their families are on social welfare. Similarly, the number of doctors decreased, between 1996-2004, from 3 to 1 and the nurses from 5 to 1. The health units belonging to the public sector have disappeared.

For the other localities in the Land of the *Moți* (Abrud, Câmpeni, Bistra, Vadu Moților etc.), with the exception of some differences, the statistical indicators about labour force, population, medical assistance and living standard have had a similar involution. For instance, the number of unemployed persons, still receiving financial support is 201, and 50 persons are on welfare (110 persons if we also count their families) in Abrud. In Câmpeni 500 persons are unemployed and 94 are on welfare. The economic growth which started in 2000 and the implementation of the PHARE and SAPARD programmes, with funds from the European Union and the Romanian Government, have diminished to a certain degree the extant negative social and economic phenomena, but this is not sufficient. In comparison to the local needs, the labour market is still, quantitatively, poor.

Under these circumstances, "Roșia Montană Gold Corporation" (RMGC) has had a large-scale initiative about a project for a gold and silver exploitation in the Land of the *Moți*. The main argument in favour of the project is the creation of jobs in a disadvantaged zone which would better the inhabitants' life by reconverting the labour force towards other professions, etc. This initiative should be looked upon with interest and welcomed, but at the same time, it should be analysed critically, having in view the benefits and the risks. The risks are high and refer to the geology of the area, the soil, the hydro-component, the air, the vegetation, and the human component (the economic, social, juridical and technological risk). I. Haiduc (2003) considers both the arguments and the counter-arguments (where the potential risks are mentioned).

*a) Predictable benefit of the project.* It is sure that the greatest benefit will be for RMG as the main stockholder (99,3 % of the stock). As the project will develop in a disadvantaged zone, the firm has fiscal facilities (it does not have to pay the taxes for a ten years' period; it also has facilities for the customs taxes), i.e. it can exploit silver and gold at the cost price. A relative benefit will be for the population of the region too, first because of the job-creation process (about 500 jobs in the operational phase – 2005-2022). The relativity of the advantage is due to the fact that the number of jobs is, nevertheless, low and the jobs are temporary. Other advantages refer to the possibilities of the local population's professional reconversion and the income that will enter the local budget. Then, an advantage for the Romanian state is that it is the

beneficiary of exploiting dues valuing 2 % of the profit (these dues have been estimated to about 4.4 billion USD/ year), which is an insignificant sum in comparison with the value of the extracted gold.

In conclusion, the benefit for RMGC firm (constituted from the association of Mininvest S.A. Deva – 19,3 % of the stock, Gabriel Resources Ltd, Canada – 80 % of the stock and minority stockholders– 0,7 % of the stock) are sure, but those in favour of the Romanian state and of the local community are minimum, uncertain, and questionable.

*b) The risks of the project.* Among the major risks and negative effects brought about by the implementation of such a project, the following are the most significant:

- *the negative effect upon the geological bodies* (e.g. the waste heaps). These will create pollution risks through washing, as they have a high content of heavy metals (Fe, Cu, Zn, Mn, etc.) and a acid pH;

- *negative effects upon the soil cover* – these effects may be direct (the washing of the superficial deposits, accelerated erosion processes, etc.) or indirect (as a result of soil pollution with heavy metals);

- *negative effects upon the hydro component* – these effects may be direct (because of the used water) or indirect (because of the rainfall water infiltration draining the waste heaps, or because of the flow resulting from the technological processes) when the pollution factors are cyanide and heavy metals etc;

- *negative effects upon air, vegetation and fauna* – these effects are generated by the circulation of cars, explosions, the activity of the plant, or the equipment. Tons of very thin particles float in the air; the deforestation of large areas; the degradation of the forest because of the dust deposited on the leaves of the trees, the consequence being dwarfism phenomena, etc.;

- *negative effects upon the human component* – these effects are visible in the degradation of people's health, manifested in precocious ageing, the appearance of professional diseases, work accidents;

- *economic and social risks* – at the end of the silver and gold exploitation period (in about 17 years), the region will again lack jobs, the unemployment rate will increase again and the environment will be seriously degraded. On the other hand, the project affects about 38 % of the surface of the commune of Roșia Montană. About 1,800 inhabitants would have to be moved from the area, as well as about 740 houses, and several churches with their cemeteries. All these buildings have to be demolished; therefore the community (the majority of the inhabitants) has strongly opposed this project;

- *juridical risks* – these are generated by the project's incompatibility with the legislation in Romania and in the European Union, in the context of our country being monitored by this European structure and Romania wishing to access E. U. in 2007. A study conducted by two juridical experts (P. Fischer and. A. Lengauer) from the European Law Institute of the University of Vienna, entitled „*The Compatibility of the Roșia Montană Mining Project in Romania to the Principles and Norms of the European Union and the Legislation of the European Community*” concludes that: the project does not observe the Directive 2001/42/EC of the European Parliament; the method of extracting the gold by using cyanide does not observe the Directive 80/68/EEC related to the protection of the underground water; the compulsory measures of relocating the population does not observe Art. 8 of the European Convention of Human Rights that is already compulsory for Romania. If the project receives the attribute „of public interest for the economic benefit of Romania”, which could justify certain actions of compulsory relocating the population, this would still be strange as the Romanian partner has only 20 % of the stock. This percentage is too small in comparison to the international practice of capitalising the underground resource;

- *technological risks* – the technology that supposes the extraction of gold and silver and their treatment with cyanide, is a serious danger for the environment – there are several „famous” very serious accidents (Baia Mare; USA 1993, 1998; Australia 1995; Philippines 1999 etc.), caused in 72 % of the cases by the flaws of the dams, 14 % - pipe fissure , and 14 % - transportation accidents. On the other hand, the cyanide is not the only danger. The mud and the used water are more dangerous because they contain toxic hard metals extracted from the ore and they are more persistent than cyanide and they cannot be neutralised. The technology supposes the „destruction” of cyanide with sulphur dioxide, in reservoirs located in the open air that represent another polluting agent.

Several other negative aspects that generate major risks are related to the ecologic problems and the conservation of the natural environment and of the historical and archaeological elements as in the area for mining exploitations there are also archaeological sites that are very valuable from a scientific point of view and also unique in Europe.

Our conclusion, after analysing the potential risks of this project, is that the project cannot start in its extant form as it is a danger for many of the valuable components of the region.

c) *Possible alternatives for the RMGC mining project.* Even if we take into account the most optimistic hypothesis that the RMGC mining project is not to entail any major ecological, economic and human risks for the Land of the *Moși* regional system (a hypothesis that should be eliminated from the start) the best sustainable development strategy for the region should also focus on several other development alternatives that should capitalise the extant resources.

Out of the viable alternatives, we mention the following: *superior wood processing; the development of „home industry” and of the textile sector; small units specialized in packing the natural local products; workshops to manufacture the accessories necessary in the furniture industry; trading in the local water resources; developing tourism; attracting European funds, etc.*

## CONCLUSIONS

We have come to the conclusion that *gold mining* (and to a lesser amount, silver mining), is an organic element of the regional system of the Land of the *Moși*. For centuries, this activity has had both positive and negative features: it has generated massive fluxes of foreign population, beginning with the Roman period (the foreigners came as specialists); it has determined the economic development of the region; it has been a social cohesion factor; it has been the generator of several revolutionary movements for social rights; at present, it is a potential revitalisation element of the region (even if for a short time) generating a series of lively debates and discontent, etc. Nevertheless, gold mining is still an essential element for the life of many of the region's inhabitants, it is a factor of self-identification of the peoples' personality and the generator of one of the functional subsystems of this region.

Forestry and wood industry, the activity with the most significant impact in the economy of the Land of the *Moși*, besides mining and gold processing, are the source of economic development in the region, even if, at present, they go through a phase of intense restructuring. In the future, both activities will be the main vectors of economic development. Still, the most significant problem to be solved is to make these activities efficient in order to reach the performance of similar firms from the European Union. This development trend is possible only through major investment and, especially, foreign investment.

## REFERENCES

- ANGHELACHE C. (2001), *România 2000 – Starea Economică*, Edit. Economică, București, Romania.
- BOȚAN C. N. (2005), *Aspecte critice în sistemul geografic al Țării Moșilor*, în „Studia Universitatis Babeș-Bolyai”, Geographia, no. 2, Cluj-Napoca, Romania.
- BOȚAN C. N., ILOVAN OANA-RAMONA and POP ANA-MARIA (2005), *The Geographical Region and the Desiderata of Sustainable Development*, in Romanian Review of Regional Studies, no.1, România.
- BOȚAN C. N., ILOVAN OANA-RAMONA (2005), *Continuity and Reconversion in the Industry of Motilor Land*, in the Conference Abstract Volume of the International Conference Regional Growth Agendas, p. 33-34, Aalborg, Denmark.
- BRAN FLORINA (1995), *Pădurea-resursă a industriei lemnului*, în „Tribuna Economică”, no. 23, 24, 25, București, Romania.
- BULEARCĂ M., BĂDILEANĂ MARINA, SIMA C. and NEAGU CORNELIA (2003), *Posibilități de dezvoltare a Văii Arieșului*, Centrul de Economia industriei și serviciilor, București, Romania.
- BUTURĂ V. (1978), *Etnografia poporului roman. Cultura materială*, Edit. Dacia, București, Romania.
- COCEAN P. (2002), *Geografie Regională*, Edit. Presa Universitară Clujeană, Cluj-Napoca, Romania.
- COCEAN P. and BOȚAN C.N. (2005), *Specificitatea individualizării spațiale a Țării Moșilor*, în „Studia Universitatis Babeș-Bolyai” Geographia, nr.1, Cluj-Napoca, Romania.
- DAUPHINE, A. (1979), *Espace, region et systeme*, Edit. Economica, Paris.
- HAIUC I. (2003), *Proiectul Roșia Montană- între riscuri și beneficii*, [http://www.acad.ro/rosia\\_montana/doc\\_pv/pv\\_ihaiduc.doc](http://www.acad.ro/rosia_montana/doc_pv/pv_ihaiduc.doc). (Accessed 10 January 2005).
- ILOVAN OANA-RAMONA (2005), *Disfavoured Zones of Northern Romania*, in the Conference Abstract Volume of the International Conference Regional Growth Agendas, p. 87-88, Aalborg, Denmark.
- POPA I. (2003), *Industria și comerțul lemnului în Munții Apuseni*, Edit. Altip, Alba-Iulia, Romania.
- \*\*\* (1998), *The Dictionary of Human Geography (third edition)*, Edit. by „R.J. Johnson”, Edit. Blackwell Publishers LTD, Oxford.