REGIONAL DEVELOPMENT IN THE CONTEXT OF EXPLOITATION OF MINERAL WEALTH OF A COUNTRY

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Abstract
The purpose of this paper is to identify and quantify the economic, technological and legislative factors of mineral resources and create a model for the rational use of mineral resources. The rationality is to be understood in the context of its possible applications in terms of the owner of the mineral resources and the state mining company, and the regional impacts which significantly affects the development of cities in the region). Raw materials are an essential resource for the development of an industrial infrastructure in the region. Their price and the availability of technology determine the level of cost incurred in the construction, which is directly linked to the efficiency of investment. Rational utilisation and maintaining sustainable development of the limited and non-renewable raw materials is an objective during creating the Raw Materials Policy in the region. Analysis and synthesis are used at all stages of problem solving in the work. Analysis of a thought process of breaking down the problem studied into smaller parts, elements, characters to reveal their essence. For large amounts of data and context aims to allocate capital, essential that illuminates the essence of the entire studied event and its causes. Models, which are located in this paper resulting directly applicable and acceptable in legislative decision-making on utilization of mineral resources in terms of development of the region. A limiting factor in the decision making process is to identify political risk services, resulting from the possibility of changes in legislation due to social acceptance wishes to achieve political maximize profitability. Originality of the paper is in the progressive approach to solving the problems of managing the use of mineral resources in the context of regional development. It is absolutely fresh look and long-awaited tool for objective assessment of the importance of mineral resources when deciding on regional development acceptable from the standpoint of the state.

Keywords: raw materials policy, mining company, plans opening, preparation and extraction, economic and technological assessment, regional development.

1. INTRODUCTION

The importance of raw materials is evident from the increased current prices of some of the main commodities and the impact of this on economic communities, government, regions and their development and links directly to living standards. The State, the amount of raw materials utilisation and

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their economic appreciation, cannot hide away from respecting the global price of raw materials, which (at the first sight) do not have anything in common (either technically, technologically, geologically, with the variation in price. The direct impact on economic regions, sometimes positively, but mainly negative, sooner or later will be reflected in everyday life. In every municipality, there are a number of unique mines (separate from the number of mines which extract construction raw materials or materials for chemical use or energetics). As an example of such a unique mine would be the mines which extract magnesite, talk or uranium. In addition, further, these can include the sources of renewable energy, such as geothermal resources, which has worldwide application and, thanks to modern technologies, their influence on environment should be a driving force to develop the mining industry and significantly affects urban development in the region. The absence of a regional Raw Material Policy means there is little understanding of how these mines could be exploited to support the development of any given region.

2. THE CURRENT SITUATION IN SLOVAK REPUBLIC

The current legislation divides the process of raw material utilisation in two categories: proprietary and non-proprietary. The main characteristic of non-propietory mines is that they are privately owned as a land. The proprietary mines are part of the mineral wealth of the country and, according to the Constitution of Slovak Republic, belong irrefutably to the State. The effectiveness of the use of state ownership is ensured through the use of the rationing. As the raw mineral sources are non-renewable, the Government administrates a rationed use of the raw material sources as a dominion of the Slovak Republic (SR), respecting the principles of sustainable development.From the strategic point of view, the Raw Materials Policy treats the raw materials as a primary source and input for of production processes and, therefore it is considered as an important and absolute necessity for the continued development of the economy of the Slovak Republic. According Article 4 of the Constitution of the SR, the internal inland raw materials wealth is solely owned by the Government. As a non-renewable resource, it needs to be preserved and efficiently utilised. This is one objective of the Raw Materials Policy, which defines the objectives of society in the utilisation of internal inland sources of raw materials. The policy also covers the long term needs for the economic and social development of society, taking into consideration the environmental aspects of sustainable development, starting with geological research and concluding with the use of verified sources of raw materials (Cavender, 1992). Slovak Republic Raw Material Policy in the area of minerals is described in the (Government resolution, 1995) and its actualisation is from the year 2003. The Mining Law is the collection of standards, which govern the conditions of detection, research, mining, ownership and the utilisation of raw materials. It

determines the relationships between the state, the land owners, where the mines are located, and entrepreneurial organisations in mining industry. It designates which raw materials can be detected and mined, and the conditions under which this can happen. In addition, it designates the person responsible for the execution of these procedures and other related duties. The mining law still includes these specifications, despite the fact that its development is always closely tied in with social institutions, economics, and scientific and technological progress. The mining standards stem from the European Mining regulations, which maintain that the owner of raw materials is the State, regardless of the ownership of the land. According to the "Mining Law" the raw materials can be both verified and non-verified. Simultaneously, the Mining Law defines the conditions for the preservation and rational utilisation of the raw materials of the SR, aimed at minimal loss and contamination of fully mined raw materials, including supplementary minerals. The mining of the purest parts of a mine is considered to be theft. However, this does not correspond with the above mentioned Mining Law, because the conditions for the utilisation of resources of a verified mine at the point of discovery, and the mining, are determined by the organisation. On this basis, the organisation calculates the reserves and consequently classifies the asset and non-asset reserves (Mihok & Vidová, 2006).

3. EVALUATION OF MINERAL DEPOSITS

According to (Rybár et al., 1983):

- Value and price are two basic financial categories which have different meanings and it is therefore necessary to define them in more detail.
- Price is stated in monetary terms.
- Value is the degree of desirability of the resource as perceived by the owner.
- Market value is the amount the market willing to pay.
- Full „cash" value, is the value of the assets
- Exchange value, which is the existing value of the ownership or assets, defined by the price necessary to transfer the ownership
- Capitalised value is the sum of discounted future profits (net income) generated by the assets. The capitalised value is an example of an income approach to the evaluation of mineral deposits and assets of a mining organisation.
- Accounting value, which comprises historic investments stated in book of accounts minus the depreciation or amortisation

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Insurance value – value, which is the insurance price of the assets insured against loss and damage

Each of above stated concepts has its own specific meaning and can be expressed by the amount of money in question, any specific situation. The answer to question: What is the price of the deposit? Is thus its value?

In principle it is possible to identify two options here: to evaluate the deposit as land, that is to say the deposit is considered to be a manufacturing organisation, generating profit through its production activities. Therefore, in this case the deposit is evaluated as a project. When the deposit is evaluated as mine, it is considered to be a source for generating money and its price is equal to the current value of future (potential) net incomes from its exploitation taking into considering the time horizon, the cost of invested capital, inflation and risk (Floreková and Bednárová, 2000). This may represent the most complex evaluation, due to the fact that it includes the time factor. The price index of the mineral deposit is Net Present Value (NPV), Cumulative Cash Flow (CCF) and other indexes (Rybár, et al., 2000, Rybár and Cehlár, 1997).

4. THE TOOLS OF ECONOMIC DECISION MAKING

The analysis of a number of alternatives for making the investment decisions or approving an investment should consider factors such as expenses, profit, savings, the length of the project, taxes, environment limits, the effect of rising inflation, riskiness of the project, the development of the region, general welfare, social and economic development and so on. Financial decisions making refers to the process in which a number of options determines what and how to be in managing and controlling financed (Zgodavová, 2003:59). There are many situations in the area of heavy industry and specifically the mining industry, where we can apply (Rybár, et al, 2000):

- To prepare a detailed economic study of the economic efficiency of mining enterprises along with estimation of acceleration of opportunities (screening);
- The comparison of the relative advantages of all investment sources (ranking);
- An assessment of the bids of vendors offering the same products or services;
- A decision to buy or rent;
- Setting the value or price for which to buy and sell the products;
- An estimation of the costs of obtaining investment sources, both short and long term
- The replacement of existing equipment or services;
- The selection between the alternatives.

5. THE MODEL FOR EVALUATION OF A GEOLOGICAL RESEARCH PROJECT

The model for the assessment of a geological research project is an important starting point for the exploration of deposit utilisation (Figure 1).

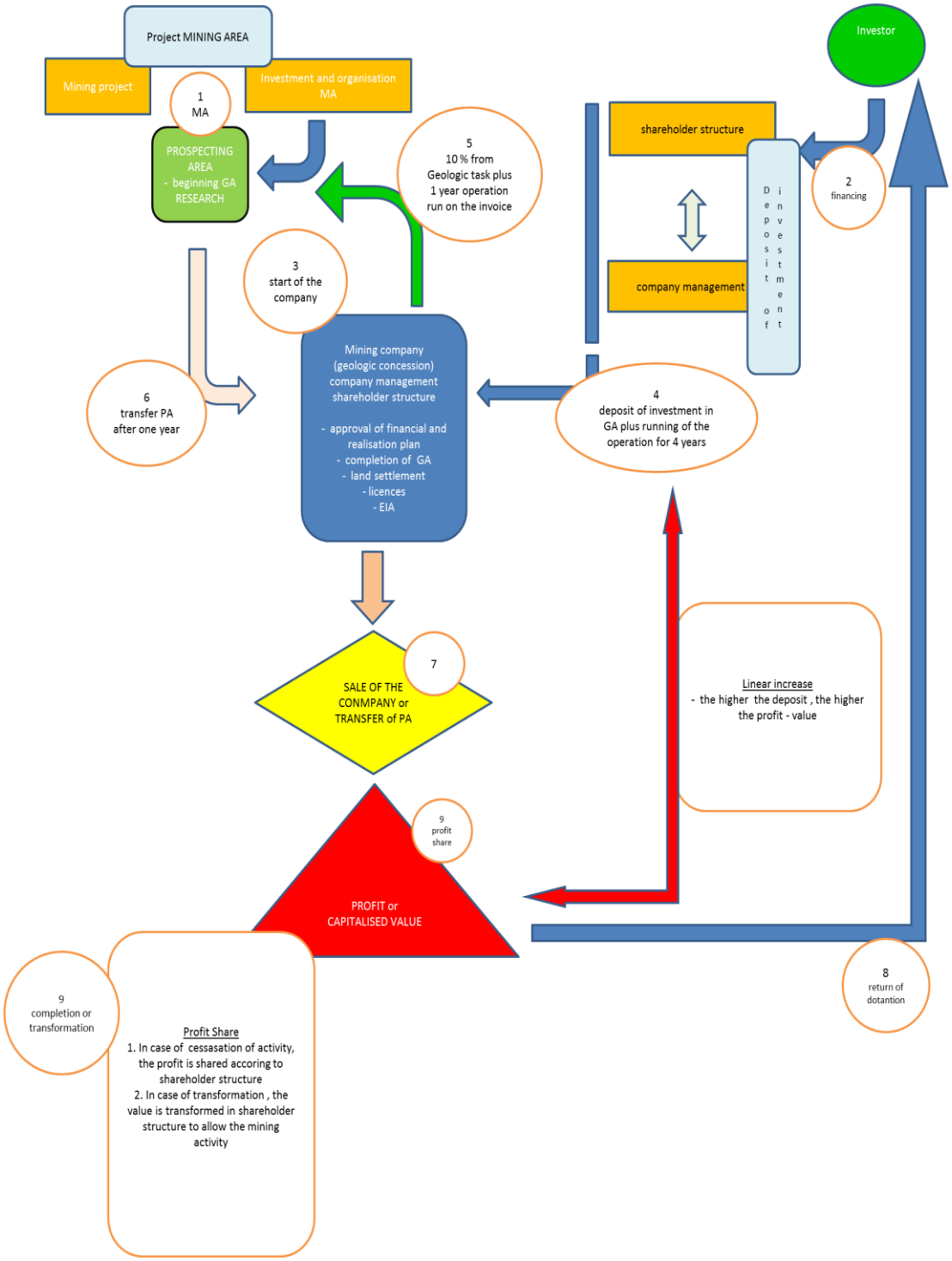

FIGURE 1 - THE MODEL OF REALISATION OF PROSPECTING AREA

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Without detailed geological research, it is not possible to confirm any probable amount of a resource, or its quality and the distribution of quality. Furthermore, without such a survey, it is not feasible to continue with the process of further assessment, leading to the determination of deposit significance and conclusions as to whether the deposit can play any role it regional development. Figure 1 represents an elaborated model of the basis upon which it is possible to determine the efficiency of implementation in the researched territory. This model is based firmly within the current legislation, while at the same time it encompasses the modern approach to the classification of mineral deposits by the United Nations Organization (U.N.O.) system. It is assumed that no investor having an interest in new or unused deposits, due to complexity of the legislation, lack of knowledge of the local environment and high risk, will take on a new project without professional preparation. To serve this purpose, there are designated organisations which specialise in this precise area. The second option is the specialised business organisations which facilitate the cooperation between the licence issuer and investors. These organisations are fully authorised and their transparency is supported by co-option of their shares in the stock exchange market. This process is described in the model for the implementation of Prospecting Area. The third assumption is the model for the past behaviour of the present actors. These actors combine the relatively available sources, but without the technical knowledge, stock exchange sources and short term sources, dispensed by stock exchange businesses based on their past activities, where they demonstrated their relationship with investors and organisation active in the stock exchange market.

6. EXPLANATION OF THE MODEL

The whole model represents the functional procedure to evaluate the deposit – Protected Deposit Area (PDA), while considering the rules of capital behaviour, business organisations and the State authorities. The model supplies a method of assessing the potentially functioning entity as a whole, and thus anticipates the success of the project execution of geological assignment as a basic assumption of deposit utilisation. The role of the particular region here is to approve or reject the regional plan to utilise the deposit and its evaluation. Despite this role being indirect, it reciprocates the impact of implementation on the region. Up until the deposit is utilised, through mining and using the benefits of this in the region, it is not possible to estimate the sum of the positive and negative impacts on this region. This model, therefore, represents a pre-assessment of the mineral deposit evaluation and, in principle; it should become the preferred choice when forming the raw materials policy in the region.

The tool has inventory character and it should be used by the regional project team in charge of the policy creation. The project team should comprise: the region (policy beneficiary), the state mining

representative organisation, the regional Ministry for the Environment, the business organisation (the Mining Committee) and an academic representative as the auditor/ consultant.

7. THE MODEL FOR MINING PROJECT EVALUATION

The model for mining project evaluation is a basis for evaluation of mineral deposits and has potential application in the formation of a Raw Material Policy in the region. The absence of a Raw Material Policy results in non-professional, incomplete, and non-reversible decisions, which are often in contradiction with the principles for sustainable development of the region. In the construction materials area, such an incompetent decision can lead to increase in the price of construction materials, due the lack of availability. This can be further extended into other industrial segments and services. In the energy industry it can lead to increases in energy inputs, with consequent spread to other industrial areas. In the area of chemical minerals, the consequences, apart from above mentioned, can decrease employment in the given region (Figure 2).

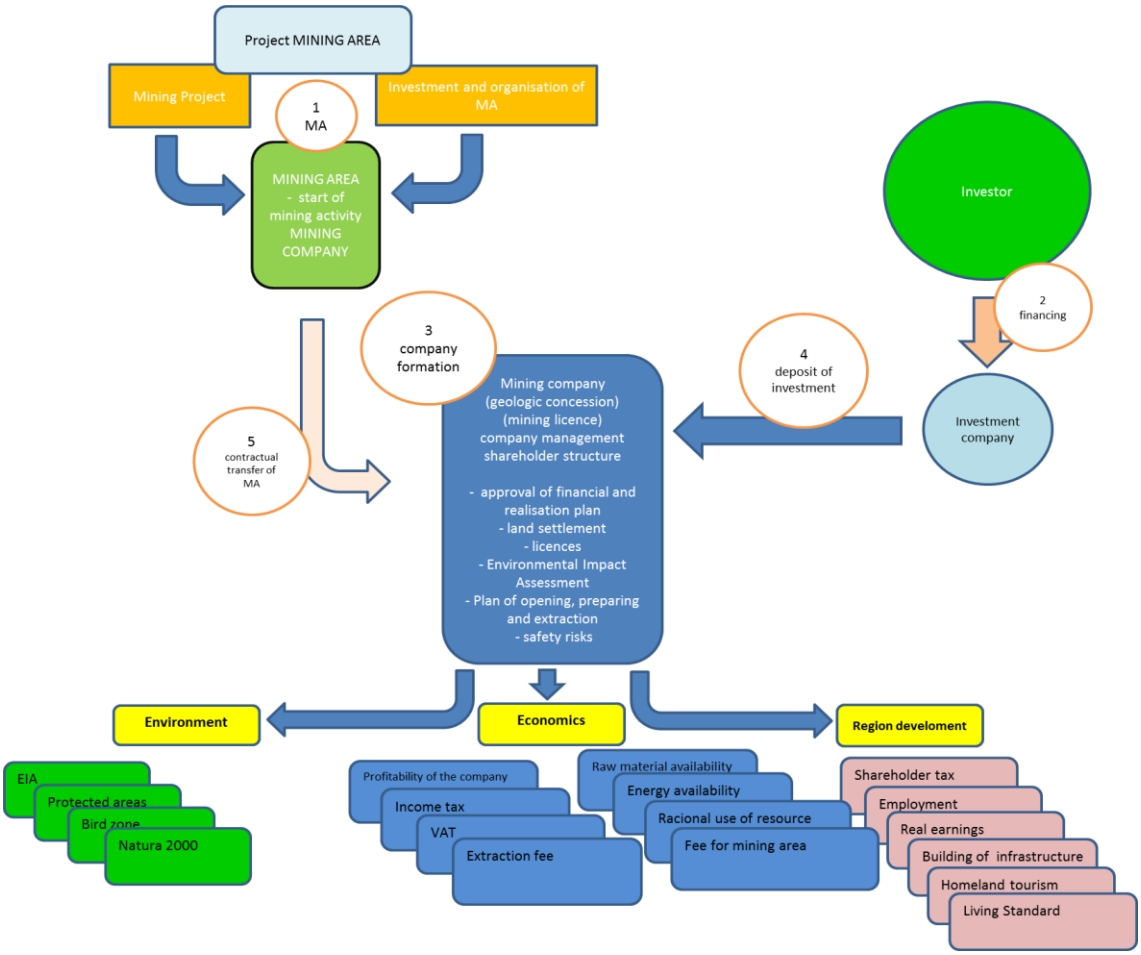

FIGURE 2 - THE MODEL FOR REALISATION OF A MINING PROJECT

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The model for evaluation of a mining project stems from the assumption that the mining licence will be acquired as stated in the documentation of the Raw Materials Policy of region. The second assumption is fact that the investor initiates the mining project without adequate background knowledge and, after elimination of majority of risk by making payments, when the licence is already held by another organisation. From the investment point of view, the research and mining represent are very demanding activities. Therefore, they are financed through the banks, investment groups, private equities and stock exchange sources.

The model works on the principle of the systematic elimination of the risk levels by blocking the activities of the legal and physical entities.

8. EXPLANATION OF THE MODEL

The model of mining project assessment – the task for the region is to approve or reject the ground plan for the purpose of mine exploitation and its evaluation.

It is more effective; however, that the regional ground plan is to be followed by smaller ground plans. This process has a direct impact on the municipal representatives, who are part of the decision making process regarding the issuing of the mining licence, together with the local environmental bureau. The conflict of interests in licencing and land sales has thus a strong influence on the regions. Therefore, this model is important for the evaluation of mineral deposits and, in principle, it should have an undeniable place in the Raw Materials Policy of the region. The tool is a decision- making tool and it should be used by the working regional groups designated to design the Raw Materials Policy. The working groups should comprise: the region (the beneficiary of raw materials policy), the State Mining Committee, the Ministry for the Environment, represented by local environment bureau, the investment organisation (Mining Chamber), and an academic representative as an acting consultancy agent.

The model for mining geological research project assessment and the model for mining project assessment, together with the concept of regional development (in a form of local land decision-making) represent the essential structure for the objective processing of the regional Raw Material Policy.

9. THE CONCEPTUAL MODEL FOR A OF REGIONAL RAW MATERIALS POLICY

The concept of a Raw Materials Policy for a municipality is a tool for the rational utilisation of mineral deposits and at the same time a tool to support the regional development, while respecting the environment, its sustainable development and its strict protection. This notion of mineral deposits does

not mean, however, that because of consideration of environmental protection, the mineral deposit will not be mined. It means that there should be an optimal method of utilisation, where the miner is able to technically mine the mineral deposit, technologically process the raw material, and economically execute the whole activity up to placing the raw material on the market. This is in conjunction with consultant while constantly monitoring the positive or negative impacts on the environment without exceeding the safety limits of permanent damage (Engel, et al., 2006).

The concept of a Raw Materials Policy (described in simple terms as input, process and output model) includes:

- Input: Components for preparation of a Raw Materials Policy concept
- Process: Assessment of the factors of a Raw Materials Policy concept
- Outputs: Results of Raw Materials Policy concept

The inputs include the summary of mineral deposits divided into:

- Mineral resources of the Slovak Republic – verified sources, deposits of verified minerals
- Non- verified deposits, deposits of non- verified minerals

Each of these activities has an economic, social and environmental impact. This summary is evident from the above stated information. The degree of detection of deposits which are currently utilised or not utilised does not provide sufficiently objective information about this utilisation in context of the principles of the concept of a Raw Materials Policy of our region (Kosice region). The ground plans of singular municipalities, containing the information about future potential or current utilisation of mineral deposits, are also contained in the inputs of this concept. These ground plans must go through the approval processes of municipalities and there is a discussion at the self-administration municipal level before their approval. They still originate from the local plan of the higher regional entity, but they are approved by the local council. The output data is the result of the evaluation carried out by the expert groups working on the input factors of the concept of the Raw Materials Policy. This is:

a) The environmental impact of the utilisation of the raw materials platform of the municipality;
b) The economic impact of the utilisation of the raw materials platform of the municipality;
c) The social impact of the utilisation of the Raw Materials Policy;
d) The development of the municipality within the greater contingency.

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These outputs are the main arguments for their incorporation into the process of revision and validation of regional ground land and further into the ground plans of towns and villages. These arguments have the attributes of expertise, integrity and conceptual information transformed into Raw Materials Policy of Slovak Republic validated by the Government. The model of the concept of a Raw Materials Policy is presented in Figure 3, which describes the process, which should take place in the suggested sequence. The most important factor is the competency factor. The ground plan is approved by the municipality.

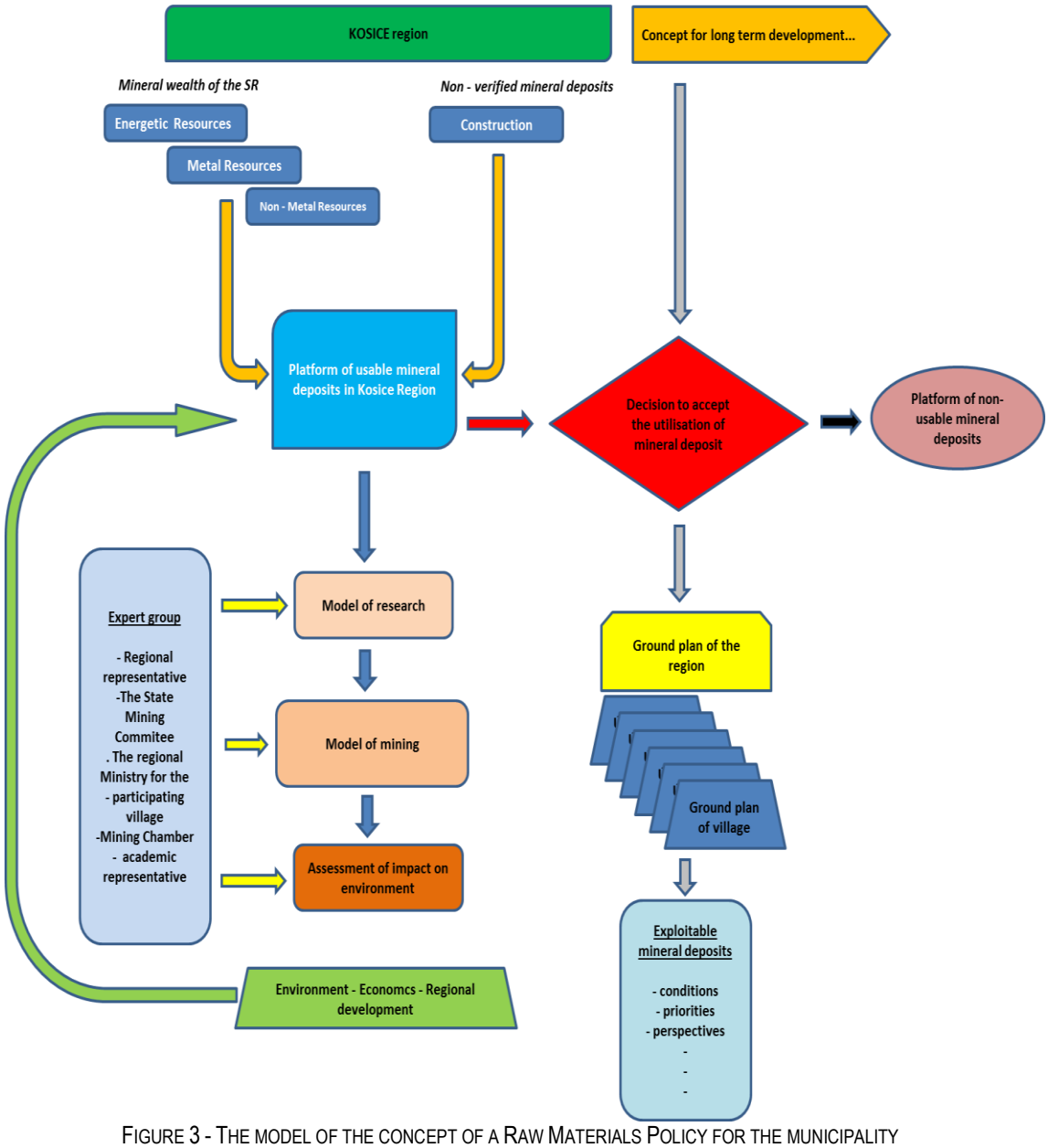

FIGURE 3 - THE MODEL OF THE CONCEPT OF A RAW MATERIALS POLICY FOR THE MUNICIPALITY

The result of objectivisation is, in essence, the allocation of mineral deposits as conceptually exploitable and non-exploitable. This is dependent on the conditions represented by several factors, which are the components of the mineral deposit evaluation as long as the price, expenses, the cost of investment and the sources availability according to their size and structure. This means that it is necessary to continually update this process and, the model of the concept of the creation of a Raw Materials Policy for the municipality can serve this purpose.

10. CONCLUSIONS

The question of the exploitation of the mineral wealth of Slovakia is covered by the valid legislation, which addresses its handling. This is documented through the processes, which are materialised in a Raw Materials Policy. Although the policy is created at the State level, it contains only general declarations, which are not possible to implement and execute effectively without institutional tools. Despite this, the policy provides a firm and inspirational framework.

The transference of competencies downwards to the municipality level introduces a new quality of management, where not the State, but the municipality participates in the public matters. Adoption of decision making authority is related to the responsibility to the decision made. The same applies to the decision-making related to ground plans, which is accepted at the municipal, town and village levels. The exploitation of mineral deposits and related approval is fully under the control of

a) the higher regional entity for the approval and updating of the ground plan and b) the municipality (town or village) for the same reason. In addition, the mentioned town or village is the acting subject in the procedures of selection and approval of mining and the allocation of the mining area.

The clear concept, the decision making model, which would contain all areas of exploitation, is a solution which would bring measurable and comparable arguments into the process. These arguments can function as the factors which simplify this process, through the allocation of weight and respecting the regional specifics.

Concerning the scientific objectives, the article presents a model which is applicable to the optional/ random municipality and considers the variable conditions in the legislation, the role of the central state office, the variable objectives of the election campaigns of political authorities representing the municipality etc.

The decision- making model for the research evaluation of the mineral deposits, the decision making model for the mining permission and the model of the creation of a Raw Material Policy for the

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municipality have a scientific approach, which also respects the previously used approaches. These, however, did not contain a preliminary analysis of the interests of the parties involved. Therefore there are different interests presented by the Ministry for the Economy, the Ministry for Environment, municipalities, and the public. The results are diverse decisions and insecure behaviour of the mining organisation leading ultimately to poor decisions being made about handling the raw materials utilisation so it would be beneficial for the development of the municipality.

Secure access and availability of the raw materials, especially to the own mineral platform, has more importance as it may appear. Even the EU has defined the raw materials policy as a major priority. This safety cannot be jeopardised by any poor or ineffective decisions made by any member state of the EU, especially states which do not have direct reach to the mineral base.

The decision making models, which combine data, competence and strategy have the main result of not losing the ability to decide about the question of ownership. The models enable the participants to decide competently, expertly, responsibly and, at the same time, incorporate the specifics of the mineral deposits into this process. This includes the following specifics of mineral deposits: size, quality, geo-technological conditions of mining, position in the market, localization, technological complexity, mining method, the number of employees, their qualification, risk, management of the mining and processing. It also touches the regional specifics such as fauna, flora, protected territories, industrial activity, age and the educational structure of citizens, employment, architecture, recreation, development plants. Moreover, it addresses the specific interests of the State as an owner: the raw materials safety, question of non-renewable energy, strategic position of the source, balance of the state budget, and specifics of the mining organisation (know-how, managerial skills, marketing ability, financial opportunities, the market share).

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