



MINERALS AND ITS MANAGING

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ABSTRACT

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INTRODUCTION

Latest studies have shown that mines are successful when management balances undertaking of a long-term risk by short engagement, aiming improvement of mine's activity and ignores all other opportunities which aren't related to its basic technology. A question comes up; what to do in order to increase chances that managing of mines be successful? In meantime it is hard to guarantee the success, it is impossible that long-term managing of mines be successful without considering establishment of a respective strategy which corresponds to managing of mines, projecting and development of suitable infrastructure, and usage of respective sources; human, technology, financial, physical and time ones. Apart these factors, considering that not only strategic management of mines but even minerals sources are important to organization and for the country in general as well. Especially when we are aware that minerals as important national source and proper supply are an essential need on development of a modern economy.

The minerals play a role on development of many industry sectors and contribute to a development of life standards of a country in general. Kosovo isn't excluded of this development.

Minerals are ground and essential to reconstruction (buildings, roadways), production (goods the people uses every day), electric power, transport, industry, businesses and agriculture (on improvement of agriculture products). Therefore, minerals presents most important economic source of a country.

USAGE AND APPLICATION OF MANAGING OF MINERALS IN KOSOVO AND GLOBAL OVERVIEW

Considering that usage of minerals is day to day and quite necessary on daily usage, it has to be understood that an application of a strategic managing is indispensable to Kosovo and whole world in general.

"A country is rich when its geographic position is suitable" use to state Napoleon, but we could add to this opinion that it is geology of such country which makes it richer and economically more developed".

Answering to the question "Whether it would be more important to a country to have a better management of human resources, but poor on geological aspect or to have weaker management and satisfactory natural resources"?. Sure, that a good strategic management, and a natural geological wealth would be the best answer.

KOSOVO'S GEOLOGICAL WEALTH

As we know Kosovo is a quite good rich country with metallic and non-metallic minerals. Kosovo is rich with:

- Energetic minerals: (lignite, and coal),
- Metallic minerals (lead, zinc, silver, gold, bismuth, cadmiums, iron, nickel, cobalt, manganic).
- Poli-metallic mineralization of copper, chrome, boxit, antimony, ,magnesium,
- Non-metallic minerals (argyle, kaolin and benton, basalts, quarc, diabase and limestone).
- Industrial minerals (construction technical stone and decorative one, marble, ceramics raw material, glass, artificial fertilizers, of isolation materials, concrete), as well as
- Thermal and mineral waters.

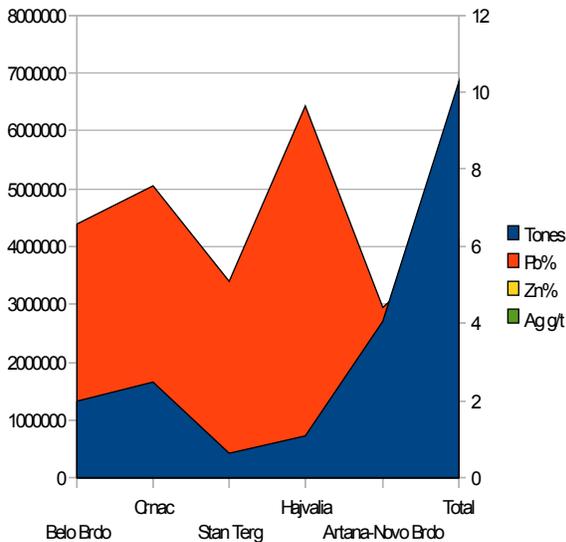
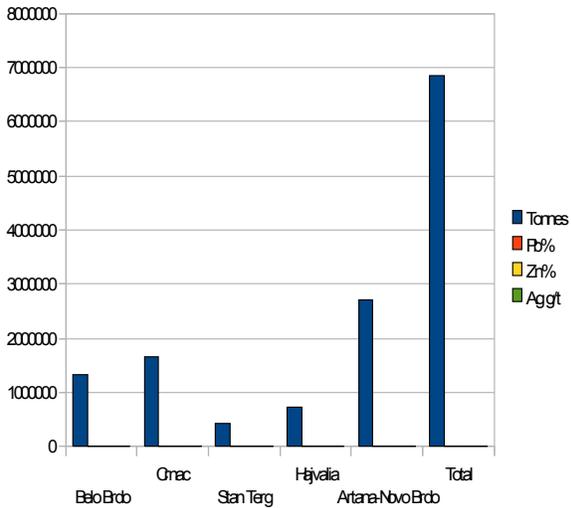
Therefore, considering geological wealth, Kosovo needs a long-term strategic managing on use and management of minerals and mines in general, commencing initially by geologic researches up to processing of minerals. It is known that today Kosovo hasn't a clearance of total volume of geological researches which are realize in Kosovo territory. In addition, Kosovo hasn't satisfactory usage of minerals considering only the example of Kosovo's energetic state in latest years and knowing (considering) natural sources of coal and lignite.

So, knowing that Kosovo is an attractive country and competitive on developing of mine's activities by private investors, in the past Kosovo faced lack of institutions and legal framework on geology-mining, thus, an law is indispensable which establishes ground on regulating research matter and protecting of rights of private companies which invests on researches and discovers the reserves of minerals.

Also, as any other country, Kosovo needs to determine the mission on usage and managing of minerals, to determine

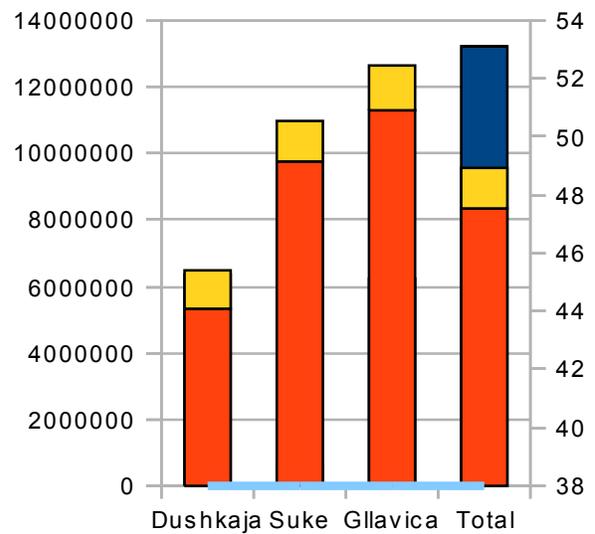
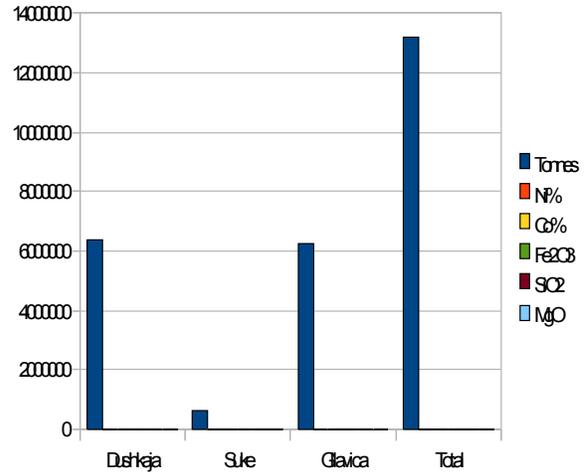
PROVEN RESERVES

Mine	Tones	Pb%	Zn%	Ag g/t
Belo Brdo	1,340,000	6.59	5.74	97.4
Crnac	1,648,000	7.57	2.93	102.0
Stan Terg	432,000	5.10	2.21	80.5
Hajvalia	723,000	9.65	18.26	126.4
Artana-Novo Brdo	2,700,000	4.43	5.42	140.6
Total	6,843,000	6.20	6.04	117.6



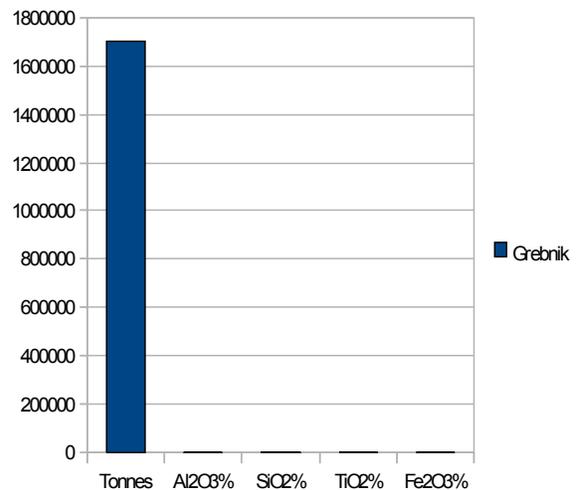
Data provided by Trepca Kosovo under UNMIK Administration, February 2005

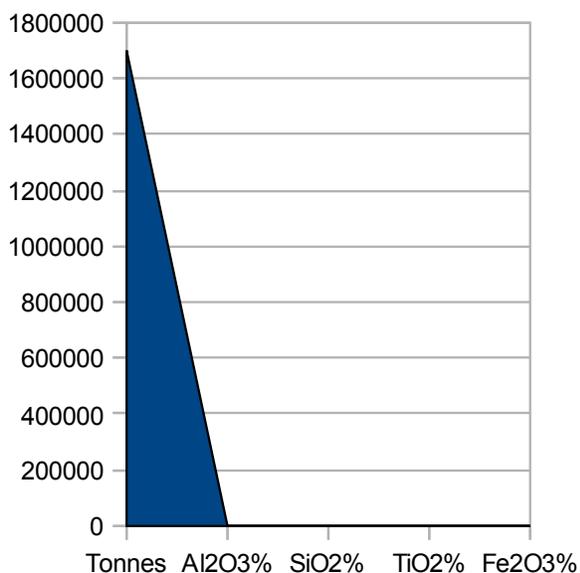
Location	Tones	Ni%	Co%	Fe2O3	SiO2	MgO
Dushkaja	6,350,000	1.29	0.05	24.29	44.09	9.33
Suke	630,000	1.36	0.06	30.56	49.17	9.48
Gllavica	6,240,000	1.55	0.05	21.53	50.89	13.52
Total	13,220,000	1.42	0.05	23.29	47.54	11.32



Estimates from Ferronikeli archive data

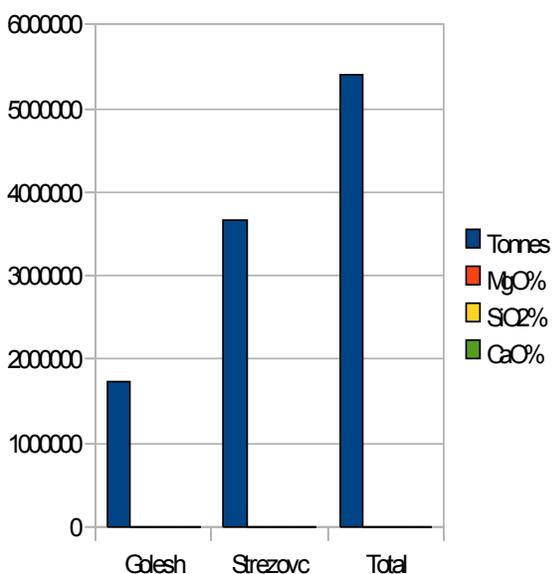
Mine	Tones	Al2O3%	SiO2%	TiO2%	Fe2O3%
Grebnik	1,700,000	49.00	2.25	1.50	27.50





Data from Kosovo bauxite records.

Mine	Tonnes	MgO%	SiO ₂ %	CaO%
Golesh	1,740,000	46.23	2.66	0.95
Strezovc	3,660,000	40.49	6.29	5.45
Total	5,400,000	42.34	5.12	4.00



Data from Kosovo bauxite records.

GLOBAL OVERVIEW ON MINERALS MARKET

All abovementioned should be performed considering the trend of minerals global market and access manner to this market. It is well known that around the world all minerals are part of different products, but there isn't a single country which has all types of minerals and which meets the needs of a country, therefore there is a need on exchange of minerals, transaction, and economic benefiting. Some countries products minerals only for

their needs, (lack of minerals or not developed countries), or some other countries imports to other countries (rich countries with minerals and developed countries as well).

So, why trade with minerals is so important? Because minerals are essential to our existence but not even distributed in whole world according to needs but based on their economic growth. International market now is more opened than before, but still state governments govern the market through tax tariffs on import and export, with the only goal protection of local production of minerals.

But, it is important to mention that during last ten years changes have happened on international market of minerals. In latest years the trade between west countries and China has been increased, which has become very fast highest exporter of some minerals, as well as some former Soviet Union countries which exports Nickel, Palladium, Aluminum, Iron and Chrome.

But a special importance in this contest for Kosovo market on minerals is that the market of Lead, Zinc and Nickel is on increase and Kosovo could benefit out of this on global market.

ACTIONS, TECHNIQUES AND KEY STAGES OF MANAGING OF MINERALS

Actions which should be undertaken on development of research process and digging of mines are many, but most important are as follows:

1. Discovery of ore location,
2. Research and discovery of ore quantity and the value from the location (deepness) where has been found,
3. Calculation of approximately ore values up to mathematics calculation of depositing,
4. Drafting of mine plan intending economic evaluation of mine processing since the entry up to the source,
5. Organizing of a study aiming total evaluation of project and bringing of decision to start working on mine or withdrawal of whole project.
6. Possible opening in order to have access on ore source,
7. Opportunity of extracting ore in **major**.
8. Replacing of soil at the place which is used for mine, intending usage of place after closure of mine.

Whereas most necessary techniques on mine's process are as follows:

1 On surface mines:

- Opening of hole for mine,
- Extracting of ore,
- Extracting of ore on narrow channels,
- Extracting of sand which has gold,
- Extracting of ore through removing soil of hill.

2 On underground mines:

- Mines through drill
- Mines with slope (incline),
- Mines through wells,
- Mines with strong stones,
- Mines through deep drillings



Managing of minerals is one of most complicated ones, but at the same time, most beneficiaries to a country. In order to achieve a success on managing of minerals, professional and technical knowledge should come across, structure of managing group, managing of working time and of budget, and a hard work.

Also a process of managing of mines should undergo some stages:

Stage 1: Establishing of an action plan

Firstly, an action plan is needed to be established which is essential on success of managing of mines. Action Plan includes itself the structure of managing team on different stages, activities and duties to be fulfilled, defines even duration and subordinates of each duty, general sources and financial expenditure required to complete a mission to manage a mine as good as possible.

Stage 2: Establishing of sources plan

After establishing of an action plan, a detailed evaluation of sources is indispensable to be drafted. Required work, equipment and materials should be put on a list and calculate the amount of each source. Finally, the amount of each needed source at every stage of managing of mines should be calculated precisely.

Stage 3: Establishing of a financial plan

Financial plan describes total amount of financial sources required at each stage of management. Total amount of each work, equipment or required material, as well as, total amount regarding any activity in mine.

Stage 4: Establishing of a qualitative plan

In order to ensure that minerals will satisfy consumers' requirements, a qualitative plan should be drafted. This plan especially includes the list of goals to be achieved, and also should ensure that a good management of any mine will achieve these goals.

Stage 5: Establishing of a risk plan

Managing of a risk is one of most important stages and most complexes in whole management of a mine. In order to foresee the risk effectively, then it needs to check on all possibilities which brings risk; commencing on action of geological researches up to extraction of minerals and closure of mine. The risk should properly evaluated, and be primarily, and this stage of management should decrease the risk at minimum.

Stage 6: Establishing of a communication plan

Communication plan presents a document which describes the information which have to be exchanged and responsible persons on exchange of information, on each

course and activity organized at mine, with only intention that responsible persons are being informed about any progress or failure. A schedule of activities and important events should be transmitted to all relevant persons and be assured that the information has been distributed on time to authorities in charge.

Stage 7: Establishing of a procurement plan

Managing of mines should include even procurement plan including productions (minerals), services and sales of external supplier. Procurement plan describes the products which should be supplied by external sources, time and supply method.

Stage 8: Contracting

By establishing of above-mentioned plans, on managing of mines, starts contracting stage (Phase) of companies which could be possible buyers of minerals, including sales method (exchange by goods or money) sales price, (considering global market price), time of sale, etc.

Stage 9: Final review

By a review and drafting accurately the plans of activities (whether researches or digging ones) sources, finances, and connection to possible consumers, management is ready to start execution stage of strategic management.

CONCLUSION

Considering the value of minerals to our daily life and geological wealth as well, then we come up to a conclusion that managing of minerals or simply; managing of mines it is an important issue to a life and economy of a country. This because it has been estimated, that one of biggest wealth of a country are geographical position and geological wealth. Thus, it's managing, commencing at research stage up to extraction, its processing or import, is essential and requires a lot of efforts by different groups of experts. But, whole this should be supported by programs or different local Government projects, and this could play a special role on managing of minerals and their price control on import-export.

LITERATURE

1. Kosovo Government, Ministry of Mines and Energy, Mines department, Minerals resources of Kosovo, April 2005,
2. UNIDO – United Nations Industrial Development, Organization –Organizata e Kombeve te Bashkuara per Zhvillim te Industrise,

3. UNCTAD – United Nations Conference on Trade and Development – Konferenca e Kombeve te Bashkuara per Tregti dhe Zhvillim,
4. Tahiri, I.: “ Management and Marketing ”, 2004, Prishtina.
5. Documentation of Metallurgy of Lead and Zinc in years (completed), Trepca, Kosovo.
6. Tahiri, I., “Kosovo’s economic development”, Prishtinë, 2003.
7. Tahiri, I., “ Economic resources in function of the economic development of Kosovo”. SGEM 2012 Bulgaria.
8. Tahiri, I.: “ Labour Organization ”. University Book, 1998, Prishtinë.
9. Coffe, J.: “ Institucional investors in transicional economics ”, 1998, London.
10. Data provided by Trepca Kosovo under UNMIK Administration February 2005.
11. Data from Kosovo boxite records.
12. *Mining Journal special publication, London, October 2005 (Kosovo land of opportunity for European mining and energy)
13. *Mining Journal special publication, London, October 2005 (Kosovo land of opportunity for European mining and energy)
14. Jay Heizer and Barry Render, “ Operations Management ” 2001, (Upper Saddle River).
15. Nakuçi, V.: “Quality Management”, University Book, 2010, Tiranë.
16. Development and progress of production. Scientific work, 2009, Turkey.
17. Carter, S., Jones, D., “ Enterprise and smoll business ”, 2002, New York.
18. Tahiri, I.: “ Pollution in the working sites and its correlation with the productivity and economical effects ”. The International Conference. Monitoring of Pollution and Energy development in Kosova and Albania, 2008, Prishtinë.
19. Tahiri, I.: “ Management ”, University Book, 2013, Prishtinë.