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SUMMARY OF PhD WORK

**MINERAL RESOURCES VALUATION AND POPULATION
PROTECTION DURING RELATED DISASTERS, IN TERMS OF
IMPLEMENTING THE SUSTAINABLE DEVELOPMENT
CONCEPT. CASE STUDY – METALLIC ORE DEPOSITS OF THE
MARAMURES COUNTY**

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Key words: sustainable development, The National Strategy for Sustainable Development in the horizon of years 2013-2020-2030, volcanism evolution in Maramures county, Bozanta and Novat settling dams introduction, duties undertaken by the management of technological entities in order to mitigate pollution from tailing dams, Communication and Information Public Plan (PCIP) in emergency situations, APELL for mining, HRMEP-RO, Decalogue for success project implementation designated for local managers.

The work paper is structured in 10 chapters and although it seems a work dissipated in several areas, the division has a certain purpose, to draw attention to the unit in diversity. The aim of the entire thesis is to underline the need to integrate the different activity fields and unifying them under one umbrella, that of sustainable development.

Chapter 1 goes through basic elements of the sustainable development concept - from its genesis - and here is remarkable Brundtland Report - WCED, 1987, with the title "Our Common Future" which also gives the most common definition of sustainable development "Sustainable development", "Sustainable development is aimed at the needs of present without compromising the ability of future generations to meet their needs", that milestone in the process of imposing the concept on the international market, following the stages of its development until present

We go on to define the concept of sustainable community, starting from defining its main components: environmental integrity, economic security, responsibility and empowerment and social welfare, noting the Rio de Janeiro moment, a place where it was drafted and adopted the Global Plan of Actions for Sustainable Development – the“21 Agenda”, which represents for the local communities a sustainable development model tested in over 113 countries in which it is being implemented. This concept provides a new way for communities to plan and carry out DEVELOPMENT, a clear picture of the level where is placed, which is the level that will achieve and which are the priorities.

The instrument by which a town is sustainable developing is sustainable planning, integrating economic, social and environmental areas, and the programmatic document is the Local Plan of Action (LPA) which highlights: the way of the community sustainable development and goals, targets, strategies and concrete commitments of local authority. The chapter also highlights the principles underpinning sustainable development planning process at local level between which it is remarkable:

- Sustainable development is done for the citizens and their participation;
- there are integrated environmental, economic and social priorities;
- It must be placed in the budget process in order to ensure financial coverage of developed strategies;
- the priorities are identified based on the multilateral analysis of the existing situation, forecasting risks, examining the interrelationship between local, regional, national and global challenges;
- Monitoring the Sustainable Development process will be based on performance indicators established by the community;

Our next subchapter draws attention on the conceptual implications of the human development, which defined by the "standard of living" and "quality of life", can create confusion in addressing sustainable development concept.

Comparing the definition and content of the two concepts, "sustainable development" and "human development" we observe similarities and differences between the two ones. The concepts aim:

- Human development – that focuses on ensuring the development of human capacities and their valuing, the size of the environment being seen as a set of influence factors upon them;
- Sustainable development - provides an important significance for the dimension of environment in terms of its use and especially its preservation.

Environment preservation represents actually the reasonable use and protection, intended to ensure continuous development, in fact, human development for future generations. When the two conceptual-methodological bases approach similar or almost identical areas of society, it is possible to be close, reaching a superposition in terms of concepts and notions and also a perspective on evaluation methods. The perspective consists in the conceptual - methodological challenge to decide, having three possibilities:

- The merger of the two concepts and use of a new one, "**sustainable human development**";
- Further use of the two separate concepts;
- Acceptance of the relationship between the two concepts in the following formula: **Sustainable Development = Human Development + Environmental preservation+ Time factor** (Stahl HH 1975).

It stresses the importance of globalization considering the mineral industry in this century, giving it one of the ways to revive the mineral resources industry - initiative implemented in practice by GMI (Global Mining Initiative), initiated by major companies for worldwide systematic assess of global mineral resources, fostering a positive relationship: the mineral resources industry - sustainable development - providing resources in the future. Among the activities promoted by GMI it is included the extensive implementation of sustainable development indicators for mining activity to the level of each mine. Addressing the concept of sustainable development at all levels demonstrates once again that development processes can not disregard the need for communities to conduct their lives in a stable, safe and friendly environment.

The end of the chapter approaches from a perspective that is trying to be objective the relationship between geological mining activities and sustainable development. It is needed to promote new areas – the economic geology represents today the only bridge between scientific and applied research and one of the most important directions of sustainable development and social and human development on Earth. At the beginning of the third millennium it is vital for the advanced economic expansion society to ensure that everything what is designed and made is developed for people in safe and with costs that justify their expectations.

Sustainable development was defined mainly by the way the natural and energy resources crisis was caused by unreasonable uses, reflecting the spent funds on solving all problems arising until the end use of a resource and to obtain a benefit, such as the

environment protection to represent worldwide a continuous process and a crucial component of all productive activities.

The main challenge of MRI, but also of the society, generally, in direct correlation with what we call sustainable development, it is the establishment of a balance between the mineral resources potential and its prospects and steps for environment preservation / recovery.

The chapter concludes by addressing some of the concepts of exploitation of mineral resources, in the context of global sustainable development, outlining the major issues we are facing in the world: global control factors: population growth (from 6 to 8-9 billion by 2025), the aspirations of developing countries seeking to overcome the condition of the peripheral area of global political-economic system, the degree of mineral resources use (the twentieth century marked a ten times increase of demand reporting to a 4 times population growing, while in the next 50 years, the demand for mineral resources will increase by 5 times) and the action mechanisms at national and international level: a differentiated approach, generating gaps between industrialized countries, representing the core of the global system, and developing ones, making up the periphery of the system. The presentation of the trends of primary sources-underlining the fact that the main items requested in actual globalised conjuncture - New Age of mineral resources - are magnesium, titanium, carbon compounds for light-resistant materials, rare lands, zirconium, tantalum, silicon elements platinum in high technology or the catalytic applications and finally describes international tendencies for influencing of MRI, in this context there are some conclusions:

- Generally, small companies have not resisted MRI rebound in the 1990s, due to lower metal prices;
- MRI is currently focused on several "major players", forming strategic alliances and seeking to exploit world-class deposits to small production prices;
- Decreased interest in MRI was correlated with increased pressure or environmental protection organizations. In response, industrialized countries have switched to a positive environmental policy, reducing the technological risks, **limiting the storage of tailings / waste** or replacing the products containing certain toxic metals.

In Chapter 2 was made a review of the current state of the Romania's achievements on sustainable development, starting from major time landmarks, the period 1997-1999, Romania-EU accession treaty, all these in the context of introducing notable events on mining issues according to EU requirements. The restructuring process of the mining industry in our country is an outcome of market economy, being launched in 1998. In this respect, Romanian Government has established a restructuring program in a first step inventoried mines which have depleted reserves and the inefficient ones, in order to propose their closure, as approved by Government for closing a large number of mines and careers phased over several stages. Another referred issue was that in relation to soils and basements, where they identified 170 contaminated sites on an area of 2 725 hectares in the extractive industry and 232 contaminated sites on an area of 2 664 ha in the oil one.

In October 2006, the Romanian Government launched the National Strategic Reference Framework 2007-2013, mainly on sustainable development in Romania. National Strategic Reference Framework 2007-2013 (NSRF), together with the National Reform Program and the Convergence Program define courses of action at national level for inclusion in the European policy objectives and strategies.

Factual and analytical elements useful for diagnosing the current situation in Romania, evaluation of public policies and differences to the average performance of other EU countries are contained in the project of **Romania's post-accession strategy**, issued by the Government in 2007. **National Strategy for Sustainable Development of Romania Horizon 2013-2020-2030** was launched on January 22, 2008 and approved the same year as the European Commission, the main directions of action is remarking: **The anticipation of the climate changes effects and the preparation in advance of action plans for crisis situations caused by natural or anthropogenic phenomena; identification of additional sources of financing for great projects and programs, particularly in the fields of infrastructure, energy, environmental protection, food security, education, health and social services.**

About the mining industry, the strategy is developing the following objectives: *approach the mining industry activity on free market principles; decrease of government direct involvement by gradual attracting investments from the private sector; conduct mining activities in environmental conditions, conduct mining activities safely and work health conditions; Mitigate social problems caused by closing uneconomic mines and revitalizing the economy of affected mining regions.*

Landmarks included in the specific priorities of the mining industry have specific references to localities of Maramures: Băiuț, Cavnic, and Borsa. The chapter concludes that in operational terms is essential to realize a government strategy, in line with EU mineral policy, which, among others, includes a companies' ranking on the criterion of efficiency and evaluation of the need / consumption at national level and other measures which may include:

- Developing a national register of specific risks;
- Research orientation towards the main trends promoted by the scientific research and market demand, by supporting the entry of European research institutes in scientific research programs, their involvement with institutions from other countries in the European research programs.

Chapter 3 makes an incursion in the geography of the region, trying to capture its major characteristics relevant for this work. Thus, after presenting geographical position, I passed to the characterization of the relief, surface waters, focusing on climate data, the chapter ending with a brief review of economic and social development of the region.

From first glance, deep pass, the next chapter is devoted to geological region, Maramures being in the exception category of our country areas, where the nature, by its gifts, favored the area and its inhabitants, but at the same time, exploiting natural resources affected the environment and individualized the economic activity. Trying deciphering the mysteries of the past, there have been highlighted aspects of the context of the

Carpatho-Pannonian geotectonic structure, induced tectonic genesis, being primarily related to two periods: the Early Cretaceous-Tertiary and Later Oligocene-Miocene. This foray into the distant past of the region continues with the presentation aspects of Tertiary volcanism in the evolution of the Carpatho-Pannonian structure, aspects of history research underlining that mining activity in the county area is known since Neolithic and the period belonged to the Austro-Hungarian Transylvania and then the Great Union were the tops for the regional exploitation. At least in the period 1493 - 1938 have been extracted from Transylvania 616t gold and silver 8 500T. After World War II the decline of the extraction industry was evident, despite extensive operation / intensive, leading to the annual production of 2-3 T.

Chapter 4 presents more detailed aspects of the geological composition and pre-volcanic foundation structure stressed being put on Transcarpathian Flies, which is actually the structural unit that develops most of the eruptive chain Țibleș-Oas-Gutai, which is divided by the system of fracture-Bogdan Dragos Voda which it divided into: Botiza blade and wildfish blade, south of the fracture system and Petrova blade, north of the fracture system. An important place in this chapter is the space devoted to volcanism evolution, are briefly presented three eruption cycles that have succeeded in Badenian to Pliocene higher throughout the volcanic activity. These cycles are correlated, in general, the volcanism along the whole Carpathians. Presentation of metal resources highlights the fact that Baia Mare is the second country gold field, with 120 tones extracted; starting with the 12th century, then comes a region known as the gold quadrilateral. Known since prehistoric ages, county territory was focused on the exploitation of natural deposits, mining being the main concern of local people.

Mining developed also the related industries, of mining processing of machinery production, all of them being the mining related industries. The chapter is focused on showcasing the metal genetic province Baia Mare in Gutai Mountains, where is concentrated a case study, two metallic genetic models are presented: Baia Sprie model (epithermal mineralization in the veins and breccias phreatic -magmata explosion) and Căvnic model (epithermal veined mineralization), but also the geological-metal genetic features of the province. The chapter concludes with an assessment of current status of these deposits.

Natural consequence of the incursion on the surface and in the depths of earth, the presentation of Maramureș's risks, comes to complete the region picture. Presented in a sequence that begins with natural hazards - underlining the risks the people faced on the region, primarily flooding, and emphasizing the other natural phenomena-from avalanches to landslides, the chapter focuses on evidence of technological risks in the specific region. Among these, the metal pollution residues represent the region "logo", particularly because international well known obtained following the event from Novăț in 2000. In this regard, the chapter presents radiographic two settling "problem" ponds in the region: Bozânta and Novat. There are identified factors that contribute to a high risk of accidental pollution of waters in the course of mining activities in Romania in general and particularly in the Tisza basin:

- poor management of tailings ponds and dams;

- limited investment in improving the ecological mining sector;
- insufficient knowledge of the extent and risk of pollution from mining exploitation and lack of accurate information;
- limited institutional capacity to implement and enforce regulatory instruments and standards;
- outdated and inefficient plans for responding to emergency situations;
- Strategic planning and non-unitary coordination, no responsibility assuming for the responsible structures;
- Low ability to react to emergencies, lack of equipment and materials specific for interventions and lack of specialized teams to action in the underground.

Inventorying specific risks in the studied region, it was logical for the next chapter to present the measures that are necessary to be taken to protect the population; therefore the next chapter was titled “**Population protection - the national goal**”. This chapter approach wanted to be a less common and present another vision of the organization of the National System of emergencies Management. It was not an attempt for its presentation in terms of the organizational structure, now well known - after more than 5 years of its establishment, but its presentation was done by enumeration of powers in the field responsible structures of interest in this area. Extracts from legal documents, compared with the reality on the ground highlights issues carefully analyzed emphasize shortcomings of the current system. An overview shows that legal provisions exist, but their application conditions are not created, and above all does not exist a uniform design of measures to be taken by the authorities and governments to impose worldwide apply standards and rules. In the work there are highlighted emergency plans structures, the prevention ones, internal and external emergency plans. The current situation is highlighted, namely the existence of legal provisions, perhaps too many and dissipated in various laws, the mentality of responsibility of passing the responsibility between structures and facts – the need of accountability coordination by professional structures and their participation in developing the entire package of legislation in this field, that must be oriented towards a single goal - prevention and mitigation of potential impacts - measures that need to be coordinated by the structures that have in responsibility the area where risk and intervention is highlighted - the field is coordinated by specialized professional structures - structures of the General Inspectorate for Emergency Situations.

The next chapter focuses on population information issues - as a key element of success of any activity undertaken in emergency management. Although still un-convinced, authorities do not realize that over 75% of the success of any activity in this area is due to the way of public communication. Once the public confidence is lost, the authorities will be busy with answers to questions coming from the people and the actions of harassment brought by media and not taking the most appropriate actions to resolve the existing situation. Part of this work emphasizes issues of importance to prepare the population, ways and measures that can be used for this purpose. It reviewed the communication system at all its five levels - city, local, county, national and international.

The chapter highlights aspects of communication in emergency situations, a different kind of communication than of normality state, and within it the need to establish the legal framework and to establish rules of communication in emergency situations. In this

respect it is highlighted the need for a national strategy in the field, which featured elements of this document. Also the organizational structure is presented, that may assist authorities, and its functions should include:

- ❖ *management structure;*
- ❖ *analysis , evaluation, synthesis structure;*
- ❖ *production structure;*
- ❖ *structure of relations with the media (Press Center);*
- ❖ *information structure;*
- ❖ *interdepartmental coordination structure;*
- ❖ *documentation structure – including the database;*
- ❖ *multicultural - international services structure.*

For the first time in the short history since the existence of professional structures for emergency management is made radiography of the communication way by the authorities responsible for emergency management. Are analyzed in terms of communication all the structures in charge - from the National Committee for Emergency Situations, ministerial committees, local and county committees level, then passing to the professional structures - General Inspectorate for Emergency Situations, county inspectorates, intervention structures. These are the results of a survey made in the "Hazard risk mitigation and emergency preparedness project", implemented based on the agreement between the Romanian Government and the International Bank for Reconstruction and Development. In this paper work there are highlighted some of the rules of communication in emergency situations of this kind, developed by staff - press, massagers.

Hereinafter is proposed the typology of documents that should assist in implementing programmatic document, in this regard the presentation content of the communication and public information plan (IPPC) gives programmatic documents necessary for efficiency of measures of disaster prevention, being also a document that can be used in case of need also by non-specialized personnel in communication, meaning that this document contain supporting documents - standard type of press release - which may be used in the first moments after the event occurs in order inform population. The work is presented at the moment when all the measures provided by studies and initiatives are transformed into reality, thus : the Romanian Government developed and approved the ***“National Strategy for Communication and Public Information in Emergency Situations” (MOF Part I, no. 426 in 06.06 2008) and its subsequent documents – “Order of the Minister of Administration and Interior on implementing the National Strategy for Communication and Public Information for Emergency Situations (MOF Part I, no. 176 of 29.10 2008)***, Romania being currently among the few countries in the world that have enacted this section of emergency management.

Reality evidenced once again that is not enough to have legislation governing the area, but it is important to apply it. Although covered, the area was not given proper attention, the situation being hardly improved by the development of legislation, and there are no concerns for the continuation of any implementation of this approach.

The next part of the paper reviews the mechanisms of international cooperation for disaster prevention and removal, relevant to the case study, given the location of the

region to EU and NATO borders, the region may benefit from the mechanisms for humanitarian assistance in case of disaster, made available by international organizations in which Romania is included. We shall summarize the mechanisms of the UN emphasizing on the International Strategy for Disaster Reduction factors (ISDR) and the consequences of this policy document for our country. National Risk Reduction Development Platform (PNRR) should not confuse the existing mechanisms.

Tradition of Civil Protection in Romania includes the element of prevention and intervention component, so that PNRR implementation could be done only by small changes in mentality and attitude, not needing major structural changes to make it more confusing to the public perception of SNMSU structures. A small optical change, a review of priorities and discuss this concept in a larger circle, would show that, simple modifying the way in which the issue would solve the dilemma. Widening the spectrum of PERMANENT representative of civil society structures would turn the current composition of the committees for emergency situations, in the optimal structure of the national platform for risk reduction. No great concessions should be made, only include representatives of civil society - NGOs at the national level, citizens and NGOs at district and local level would solve the problem simply and effectively.

It is presented the context by the EU regulations regarding issues of mining waste management, which should form the basis for national regulations. Directive 2006/21/EC "Management of waste in the mining industry" and the Environmental Impact Assessment Directive (97/11/EC) and Waste Framework Directive (75/442/EEC) are currently covered by provisions specifically on this issue. Based on the requirements of Art. 6, each operator must, before beginning work, to develop a major accident prevention policy for waste management, quarrying and implement a safety management system, which it implemented in accordance with items under the Directive. Also competent authority should prepare an external emergency plan specifying measures to be taken off-site in case of an accident. The competent authority must ensure that it is given the opportunity, early and effectively, for the concerned public to participate in preparing or analyzing external emergency plan to be developed.

As a continuation of this requirement, are some of the regional cooperation mechanisms, APELL, is one of the least known. Awareness and Preparedness for Emergencies at Local Level - APELL - was established and developed to promote and encourage partnerships to protect the environment through information, communication and training at national, local and individual levels, in order to improve quality of life without compromising chance of future generations to have access to resources. APELL works as a management tool that acts locally to support the information structures and decision-making structures regarding potential chances that may threaten the community. APELL is a program based on a specific process that works locally to facilitate coordination and communication, its stake is a concerted action, start to develop and strengthen local capacity to anticipate and action to reduce efforts to intervene in case of events that threaten community.

APELL program offers a simple and straightforward approach on prevention and response in case of emergencies, reducing their impact through planning, awareness and communication, and can be applied to any emergency, regardless of its nature, natural or technological, taking into account specific risk factors. A rapid and effective local response may be the most important factor limiting the damage and destruction that affect

people, property or the environment. In case of occurrence of such situations, the primary reaction is the community, which emphasizes the importance APELL program. APELL is currently active in the following areas of the world: Europe, North America, South America and the Caribbean, Africa, Asia and the Pacific, Western Asia, being implemented in 75 communities in 30 countries. There are many programs APELL, among them being APELL for geological-mining activities from identification to exploitation of mineral resources - in mining, due to the used technology, problems that can arise posing a serious risk to the environment, with great social consequences and implications. APELL has created a program dedicated to mining, in collaboration with the International Committee for Mining and Metallurgy (Committee for International Mining and Metals (ICMM)), thus obtaining important information about: the safety of tailing ponds, waste storage, transfer and transport of hazardous substances within and outside the mine, failure of pipelines, land subsidence, chemical spills, fires and explosions, mine closure risks.

APELL is trying to improve the response capacity of all stakeholders in emergency management, using a structure of direct communication between partners, through actions meant to reduce the probability of emergency in mining and measures in industry sector organization, so that competitive criteria to be met. Specific mechanisms EU and NATO, best known by the national authorities are listed below, enhancing the spectrum of possible mechanisms that can be accessed in case of a disaster.

The next chapter outlines the measures taken by the Romanian Government on the development of metallic mineral resources and activities targeting environmental protection in the XXI century, reviewing the programs initiated by the Romanian Government in this area. Among these the describing of the *Hazard risk mitigation and emergency preparedness project (HRMEP)*, which provides matching program with security clearance of mines tailing heaps occupies an important area; this is the first project financed by the International Bank for Reconstruction and Development in prevention. Leading the way, the four institutions that have assumed the responsibility for implementing this project, initiated a complex process of project management that the ultimate goal was to support the Romanian Government in reducing the ecological, social and economic vulnerability to natural disasters and to discharge catastrophic mining accidental pollutants through: (i) strengthening institutional and technical capacity for disaster management and response to emergency situations through the modernization of communications and information, (ii) implementation of specific investments to reduce risk of flooding, landslides and earthquakes, (iii) improving the safe of the selected water dams, and (iv) improving on an experimental basis the management and safety of the tailings ponds and waste storage facilities.

The project having a component dedicated to management and security of tailing ponds was the first signed among the most multidisciplinary projects, where the concrete commitment was required for cooperation between the structures involved in disaster management. Component D of the program is presented in detail: "Reduce the risk of mining accidents in the Tisza Basin" with an allowance of 15.25 million U.S. dollars U.S. Subcomponents: *Creating a reference system and a system of environmental monitoring (U.S. 0.87 million U.S. dollars); Accident prevention and remedial interventions (U.S. 12.58 million U.S. dollars)*

Technical and environmental guidelines for tailings ponds and waste dumps (U.S. 0.22 million U.S. dollars)

The regional response to the threat of discharges from mines (1.21 million U.S. dollars U.S.)

Promoting cross-border cooperation regarding the integrated management of water resources in the Tisza Basin (0.37 million U.S. dollars U.S.), and the obtained results to the date.

In turn there is reviewed **”The project of mine closure and environmental and socio-economic regeneration - financed by IBRD loan 47,590-RO, possible mechanisms for attracting EU funds - specific EU regional development programs** - the Sectoral Operational Program Environment (SOP ENV), PHARE, LIFE, ISPA SAMTID, SAPARD, Operational Program “Administrative Capacity Development”; (OP DCA), the elements to reach local authorities to develop local development strategies, investment, environmental rehabilitation of affected by mining. The only reviewing of these arrangements and these funds absorption brief analysis reveals painful realities. The available money that some mayors have not found, a lack of information and explain the opportunities for accessing funding, and worse, non pre-accession funds for strengthening the capacity of absorption of structural funds. We are more than two years after accession and local authorities manifest the same attitude toward money as 5-6 years ago, indifference and fear of making mistakes. The lack of structures, trained personnel to meet requirements of proper preparation of documentation, follow this time during the evaluation and implementation, is that at the beginning of 2010 Romania has an absorption rate of less than 10%.

Aware of the issues faced by Maramures County, the logic next step is how to find what works best. Using as a starting point the SWOT analysis method in the next part of the paper I attempted to identify the main strategic lines and objectives identification. SWOT orders the main collected data, studies and analysis of the regional, national and international context, on four distinct categories "strengths", "weaknesses" "opportunities" and "threats ". From the identified strengths we mention:

- area with a rich hydrographic network, spa areas for recreation and treatment and natural forests - which are sights;
- the existence of a large area of woods - beech, hornbeam, cherry, edible chestnut, birch, shrubs, nut horn, brier that can be integrated in various economic activities;
- skilled workforce;
- there is a university, economic, technical and other specialties center;
- presence of foreign representative offices - banks, companies;
- there is a high potential for livestock;
- historic area known by folk traditions and heritage of UNESCO;
- tourist area known by international well-known targets (Sapanta Cemetery, old churches in the UNESCO heritage, mountain area with facilities for winter and summer sports);
- Existence of land with development potential in the housing area.

Among weaknesses we highlight:

- population migrating and especially young people to jobs abroad;

- deficiencies in road infrastructure - no highways, county roads in poor condition, rail transport direction - Baia Mare, Salva-Viseu, modernized and small capacity airport- without the possibility to be included in the international traffic;
- deficiencies in water supply and sanitation in some areas ;
- centralized system of public utilities in particular in cities and municipalities;
- unfinished projects and modernization of urban settlements;
- imbalance between the known Maramures area - Iza Valley and other areas, particularly the mining ones - Cavnic;
- lack of vegetable and fruit processing micro-companies, and also of products packaging or animal products processing;
- lack of a single plan of socio-economic development of the area as a result of cooperation between county and local government;
- lack of a data bank on land settlements;
- Lack of information systems in management decision-making and economic and property management in the public administration.

Identified opportunities:

- county at the EU border;
- markets in the area provide important facilities for the recovery of agricultural products;
- existing amenities and interest throughout the county - Baia Mare, Baia Sprie, Cavnic soup, Suior;
- historical, cultural, ethnographic units and areas, attractive in the area of interest;
- formulation of state policy on sustainable urban development and sustainable rural development;
- a strong folk tradition and a great potential to use organic products;
- Existence of the legal framework for projects financing – by projects with internal or external structural funds - the EU cross-border cooperation ones.

From the listed threats we mention:

- insufficient budget at county local level;
- competition of foreign products cheaper and less quality, in particular through the big stores;
- decrease investor interest for the area, because of inadequate infrastructure;
- delays in companies privatization;
- the legal and legislative incomplete and unstable framework in economy (investment, tax, taxes, customs facilities);
- negative image of some western media about the social and political situation in Romania;

Following the qualitative analysis there were made strategic principles of economic development in the analyzed area.

1. Balanced economic and social development of all area, especially the mining areas;

2. Making a modern network infrastructure and improve the quality of local public services.

Each of these strategic goals is supported by general objectives and specific strategies for achieving them.

Economic and social development of the entire area, especially the mining areas (1) is supported by the following objectives: (1.1) support the vitality of the Maramures area according to the role of the Tourism Capital city of European interest (1.2) sustained economic development of the private sector and individual income growth of the local community, (1.3) optimizing economic with social development policies, (1.4) a better life quality increase.

In turn, these objectives are supported by the following strategies:

- 1.1 - Valuing favorable geographical position; support the aspiration to become the main attractions objective of Romania and South-Eastern Europe; the location of regional tourism bodies in the area; development of rural tourism and its classification among international objectives.
- 1.2 – Policies that implement the concepts of sustainable rural development and urban development, local political establishment and development of SMEs, local policies to attract direct investment; economic exploitation of tourist, natural, rural and urban potential.
- 1.3 – local economic and urban development policies, balanced location in the territory of economic activities, education, culture and public services, local policies to promote investment in sport, tourism and recreation; achieving development policies in areas of potential development
- 1.4 - programs for social housing; balanced location in territory of the inhabited areas, optimize economic development in relation to environmental issues, local policy to protect the towns, and for vegetation managing.

Making a modern infrastructure network and improve the quality of local public services (2), in turn is supported by the following objectives: (2.1) increase transport capacity in the area, (2.2) improve the quality of public services

These objectives will be achieved by implementing the following strategies:

- 1.1 –achieve an uniform policy in transportation by increasing transport capacity on all routes to the area of transport, rehabilitation of road infrastructure in the county and increase its capacity, building artery roads in towns and cities and achieve mountain road, development of parking areas and of related services at a higher quality level.
- 1.2 –upgrading and expansion of water supply service in all county towns, rehabilitation of district heating system and encouraging the use of environmentally friendly heating systems, by using alternative energy sources, organizing a modern management sanitation (collection, transport, storage, mining), development of professional public services for emergency assistance and those voluntary throughout the county range.

In this algorithm an important role has the risk identification and classification. By drawing up a Risk Register in each locality can easily determine the weaknesses and threats to the community and on this basis is easier to determine priorities, at least in terms of programs that will implement strategies. Risk Register is not new, is widely used in European countries and started at first from risks caused by natural hazards, then extended to the technology during that evolution should be extended to the socio-economic and financial, covering essentially all aspects of society. A modern means,

which translated into graphic form, can be made available to authorities and citizens of the community showing the real priorities and not those of interest or those are submitted to it. This instrument could be the basis for achieving local development strategies - documents that according to the law should underpin the development of each locality. Unfortunately most of the local strategies are documents that do not fit a European quality standard, produced by non-professionals for the sake of meeting a need of local authority and not to serve a goal.

The proposed methodology for drawing up local development strategies on long- average term. Proposed steps should include:

- ✚ Analysis and assessment of current situation;
- ✚ Community-specific risks: identification, analysis, impact assessment, preparation establishing of Risk Register (not limited to the risks caused by hazards or events, but also economic, financial, social risks, etc.)
- ✚ Establish priorities of development; their identification, prioritization, timing and their financial evaluation, project document preparation;
- ✚ Public debate of the draft and its revision
- ✚ Identifying funding opportunities (Operational Programs, European funds, other government or private programs), the covering costs and preparing the final version of the document;
- ✚ Approval of the document in the local council meeting and the sequencing of its review
- ✚ Document dissemination in the community, posting it on the media

At the end of the paper personal considerations and proposals are highlighted. Throughout it I have been looking at the correlation between primary geological information, its flow, and population informing and educating and then generating the best decisions, all in the context of sustainable development, need of the XXIst century. Current identified issues relates in particular to:

- No conceptual party (those that provide data), to an institution with the necessary skills to inform about the emergence, existence and development of risk factors;

- existence of a "thick" legislation, full of contradictions, developed in scope and not in the context of organizational integration, which do not state clear responsibilities and acceptable to all responsible factors involved in emergency management;

- there are insufficient consistent structural programs and projects at national and local level which, combined with financial failure, lead to degradation of work and hazards perpetuate the existence of structural coherent programs and projects at national and local level which, combined with financial insufficiency, lead to degradation of work and perpetuate the dangers for man

- Public security in general and of human communities, involving an appropriate security environment today;

- economic development and environmental protection of citizens must be conducted in a total balance, in fact it was checked on the concept of 'sustainable development', in this respect was adopted "21 Agenda"

- The role of prevention is essential in reducing disasters risks

-the more an emergency situation is more serious and affects a significant number of community members, in proportion increase social problems created by it, problems that can often even lead to social conflicts

- the need - for studied case - to apply the 'lessons learned' principle, which is currently limited to the balance sheets of activities carried out by structures responsible and not to a public debate that has plans aim to improve risk analysis and coverage in enhancing the intervention capacity or population preparedness

Among the 23 identified proposals, that want to create an appropriate and coherent framework for action in case of emergency situations and can improve both the conceptual and practical part, we selected the following:

1. Establish the National Geologic Service, which manages, as in other countries with institutional tradition, natural risk factors. This service, through its experts would be able to send initial specialized information, such as geological one, to the components of the National System for emergencies Management, to take measures to implement their prevention programs developed at this level;
2. Making a governmental strategy in line with mineral / environment EU policy, based on information managed by the National Geological Service (need to create a modern data bank / documentary and electronic), which involves pooling their targets after efficiency criterion and assess necessary report / consumer at national level
3. Guideline the research of mineral resources promoted by the main trends of scientific research and market demand. They are: traditional resources - "metallic and decorative", precious metals (gold), multi-metals (major elements and minor elements, especially copper), oil (in new areas, greater degree of recovery), non-traditional resources - precious metals, rare and dispersed in coal ash from thermal plants, warehouses for waste chemical, metallurgical, mining special resources - » rare earth series granitites, lithium pegmatite, metalized nodules in the Black Sea.
4. Establishing regional and local programs for development of structural works, settling in this respect a priority schedule based on location ponds / dumps, severity of consequences which might result and other criteria established by experts in the field;
5. Ensuring a consistent funding development programs, encourage and support local authorities to access the structural funds and other funding sources
6. Informing the public through appropriate structures created by law in the National System of emergency situations Management, establishment of effective dialogue between authorities and the public regarding the existing risks, plans developed and the principles of sustainable development in the area. Establishment of modern means of communication - web portal, Risk Register to increase confidence in local authorities and their ability to professionally manage any situation should arise
7. Daily use and continuous improvement of communication between authorities and public, before, during and after the occurrence of an emergency, building consistent and reliable information flow with the affected population and the

- media. Implementing the provisions of the National Strategy for Communication and Public Information for Emergency Situations and its accompanying documents and the establishment of Communication and Public Information Centers (CCIP) in the prefectures.
8. Reviewing and improving the general and sector strategies on disaster prevention. The organization and operational risk reduction national platform, this is aimed at increasing the safety culture of citizens and civil society involvement in the decision making process. Extending the concept to county and local level, involving the responsible factors not only during the emergencies, but also during training;
 9. Functioning of the Emergency Management Information System (EMIS) and the implementation of the leadership and coordination of assistance concept, approved by the National Committee for Emergency Situations in December 2006, as a reference for modern and integrated emergency situations management, establish working procedures within the system, thus the issue of liability is done during the occurrence of an emergency situation;
 10. Entry into force of the "Law on compulsory insurance for housing", to create the appropriate timely compensation for people, in serious situations of disaster housing damage. Currently, its inexistence generates major problems for government, but also social problems;
 11. National legislation of the concept of "Integrated Management of Local Center, Town Hall subordinate structures incorporating capabilities of the Mayor (local police, voluntary services, video surveillance, utilities - gas, sewer, water, electricity, etc.) and that are connected with the County Operational Centers, the first step towards an effective transition to voluntary service and empowerment of local authorities;
 12. Radical change of outlook on volunteering in prevention and emergency management, as Voluntary Service for Emergencies is the one that must ensure preventive measures up to the last citizen of the municipality and execute first intervention in the emergencies occurrence. In this way, a system of incentives must be created to service members, that ensure the attractiveness and empowerment of its members;
 13. Regulation, under sanction procedure, of the obligation to comply with rulings emergency committees at all levels, which is absent in the present laws.

The paper work ends with the proposal of a viable Decalogue for those responsible with institutions management, who want to access funding programs, particularly it is considered useful for local authorities:

1. Propose a design theme that has an end and is included in the generic strategy framework,
2. With the design of the program and starting the negotiations, a person is designated to be involved in all rounds of negotiations, the person who will be part of the project management structure;
3. Plan in advance of the place and role of project management structure within the organization and ensure that everyone understood its necessity and that there is a competition for the existing structures;

4. Place and role of project management structure must assure its independence and neutrality. The program is not of the structure's head, but in the benefit of the organization;
5. Ensure the selection of personnel within the management structure in line with the structure's head. Do not hire staff and then appoint a chief;
6. Follow personal qualities of members of the management structure, taking into consideration the fact that they will be the ones that will interact with other national and international entities;
7. Mobilize the staff to help implement the program; no structure can have human and material resources available for effective management;
8. When several programs are running, name a structure that follows the objectives and avoid duplication. An overlay can take you to the loss of allocated financial resources;
9. Provide material resources and staff training before the actual start of implementation. Avoid mistakes and, above all, ambiguities;
10. Provide the staff a real perspective and not uncertainties. Otherwise you'll lose a resource of skilled and open-minded personnel.