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# **OBSERVATIONS ON THE IMPLEMENTATION OF DIRECTIVE 2006/21/EC ON THE MANAGEMENT OF WASTE FROM EXTRACTIVE INDUSTRIES**



July 2016

# Colophon

**Title:** Observations on the implementation of Directive 2006/21/EC of the European Parliament and Council of 15 March 2006 on the management of waste from extractive industries and amending Directive 2004/35/EC

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## **About Mining Watch Romania**

Mining Watch Romania is a network of organizations joining local communities in their efforts to stop destructive industrial-scale mining projects. Mining Watch monitors the permits issued by authorities to the benefit of mining companies and signals irregularities to decision makers in Romania and when relevant, at the EU level. Amongst its activities count litigation and advocacy to ensure that authorities properly enforce relevant legal provisions. Mining Watch Romania is also a founding member of the European Bang! Ban Cyanide Coalition. Modern industrial gold mining is a chemical process often done using massive open pits and large quantities of cyanide to separate the gold from the ores. This extraction method does not generate wealth but leads to pollution, poverty and dependency. It drains communities of resources and limits the development of alternatives. The campaign unites members from Belgium, Bulgaria, Finland, France, Greece, Germany, Romania, Slovakia, Spain, UK, The Czech Republic and Turkey.

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## General observations

Directive 2006/21/CE should respect and consolidate the importance given to the affected local communities and the environment, in order to protect them. In this line two relevant principles are applicable: the precautionary principle and the principle of obtaining the free prior informed consent of the local inhabitants of areas rich in mineral resources. If these principles are not complied with, the issue of waste from extractive industries will not reflect the European citizens' aspirations.

The highest risk is that Directive 2006/21/CE would remain a sterile legal act, designed to respond exclusively to the mining industry's expectations.

Mining waste management tends to be considered as a stand-alone activity, outside the complex issue of extractive industries. In this line the principles listed above are minimized, which impedes a pragmatic and efficient approach which should evaluate real costs and implicit risks generated by modern open pit mining.

***In the spirit of the precautionary principle, as defined by Article 191 of the Treaty on the Functioning of the European Union:***

### **1. Establishing some no-go zones for protecting the environment and correlating this with the relevant directives**

The acknowledgement of very high risks for the environment should entail the establishment of no-go zones excluded from mining operations. The demarcation of these geographical areas should include national parks, natural reserves, natural monuments, protected areas as well as Natura 2000 sites. Only this way regulations such as the Habitat Directive or the Birds Directive would be complied with, by giving priority to protected ecosystems rather than to the mineral content of soil.

At the same time it is important to create a continuous network of protected areas where mining operations and the disposal of mining waste should be forbidden. This principle emphasises the importance of maintaining protected areas' connectivity so as to ensure adequate migration corridors.

These no-go zones should also be provided with buffer zones. Examples of this system applied in practice can be found in Sweden or the Philippines.

### **2. Establishing no-go zones for protecting cultural landscapes**

This type of zone should include cultural landscapes, historical monuments and archaeological sites in order to comply with the European Landscape Convention. At the same time these no-go zones should also be provided with buffer zones. Examples of this system applied in practice can be found in British Columbia.

### **3. Banning the disposal of mining waste along water courses and/or water reservoirs for communities.**

The water framework directive states that the natural course of a river may not be diverted, except in case of a project of major public interest. Nevertheless most newly proposed mining projects propose either the catchment or the deviation of water courses in order to build tailings

dams or mining waste dumps. This is also the case of the two mining projects proposed in Romania (Certej and Roşia Montană). In case these directives remain uncorrelated, then no member state will be able "to prevent deterioration from a higher status to a lower status of a body of surface water as a result of new human development activities".

In this line we believe it is necessary to include in the waste management directive some water course protection areas where waste disposal should be forbidden. This directive should not only protect the water body itself, but also ensure that an adequate buffer is maintained to support the natural migration of the water course.

#### **4. Establishing legal distance limits to localities, where mining operations using toxic substances may be located.**

The mining industry proposes more and more open pit mines and waste facilities in densely populated areas. This is the case with the following projects: Corcoesto (Spain), Skouries (Greece), Certej (Romania) or Kremnica (Slovakia), where mining operations are proposed to be developed in communities, although the latter expressed their opposition to open pit mining, through a large number of actions in court or street mobilisations.

The arguments invoked frequently include pollution with dust from mining waste in the tailings dams area, regardless of their geographical location. Dust from mining waste may impact on the natural balance of local communities or animal species, by affecting vegetation and/or agriculture and enhancing secondary effects such as drought, insect proliferation or toxic substance evaporation. Although this issue has not been sufficiently studied, the consequences of dust pollution from mining operations are visible throughout the communities affected by mining.

In this line it is recommended to establish a minimum limit of 20 km between local communities and mining waste facilities. This minimum distance is suggested by the studies on the natural attenuation of the impact generated by mining waste facilities.

***In the spirit of the principle of obtaining the free, prior and informed consent (FPIC):***

#### **5. Obtaining the free prior and informed consent of local communities**

Although *obtaining the initial free prior and informed consent* has progressed with respect to indigenous peoples and their respective territories, this is a social protection measure which has developed in a wider sense, as a principle of best practices for sustainable development. This was mainly applied and developed for industrial projects, including mining ones. Recent history has shown that this kind of practice is also necessary in European Union member states. Regardless whether we speak about communities in Corcoesto and Bernardino (Galicia, Spain), Roşia Montană and Certej (Romania) or Skouries (Greece), the social movements they generated, the long lasting opposition and the communities' determination to act, demonstrated over the years, have revealed that the informing actions on mining projects are belated and insufficient. This makes **public participation punctual** (limited to the EIA procedure) **and only consultative** (the right of local communities or some of their members to express a *veto* against the mining activity is denied).

Indeed traditionally indigenous groups have been excluded from decision making in general, so this principle was designed to remedy this status quo. However the way how mining licenses are granted or the obligation of local authorities to adapt urbanism plans to these licenses

repeats the same type of invalidation and domination of large groups of citizens on the territory of member states as well. All communities affected by mining projects should be able to participate in the negotiation and the decision making process in all its stages, as early as possible, while all development options are still open - and when they say "no" to a project, this should be taken into account. The process of obtaining the consent should be carried out earlier than an EIA for a mine proposal because at that stage the mine operator has already invested too much money and will not retrieve.

Mining waste management should not be a separate topic from these important aspects, all the more so as local communities are directly impacted by the effects of mining activities. However we see that Directive 2006/21/EC fails to deal with such cases which occur all over Europe. A conclusive example in this line is a poll performed on a representative sample in Romania in March 2016. 70% of respondents believe that tourism, agriculture and the valorization of heritage are better solutions for creating the same number of jobs than opening a mining exploitation. Despite this, public opinion is ignored and European and national strategies on mineral resources continue to give priority to resource exploitation to the detriment of local communities.

#### **6. Changing urbanism plans at the stage of obtaining the construction permit**

The mining waste directive should prevent situations as that occurring at Roşia Montană in 2002, when the whole area was declared as single-industry area. These urbanism plans have blocked the economic development of the area for more than ten years, although the mining company has not managed even until now to implement their project. Therefore such urbanism plans should be issued at the stage of obtaining the construction permits.

#### **In agreement with the European Union's Circular Economy Package:**

#### **6. Correlating Directive 2006/21/EC with the European Union's Circular Economy Package of measures:**

The mining industry continues to remain dephased from the measures announced through the European Union's Circular Economy Package: this is one of the conclusions of an analysis commissioned by the World Economic Forum.

This can also be explained by the fact that the legislation regulating the mining sector, such as Directive 2006/21/EC, ignores these trends and increases the gap between the European citizens' expectations and the mining industry activity. The extractivist model continues to impose the idea that raw materials should be obtained from the earth, as a priority. Transition to circular economy, with a potential reaching 1 trillion dollars, could show that the reuse and recycling of metals from electronics is more precious than one gram of gold extracted from 20 tonnes of earth. The same analysis also shows that, although population is increasing, the demand for mineral resources per capita will decrease. Consumers will prefer products obtained by environmentally friendly methods rather than by invasive methods entailing high costs for fragile ecosystems and local communities. At the same time environmental efficiency and the social impact will have to be incorporated in the value of goods, which will lead to "the real cost of metals". Despite these certainties, the European Commission's reaction remains unwieldy when it comes to reforming mining industry and waste management policies.

#### **7. Including an annual target for mining waste treatment**

The long term objective of Directive 2006/21/CE is to reduce the quantity of waste generated. However the directive does not provide specific thresholds per member state or for the European Union as a whole for the treatment of mining waste. The Eurostat statistic is all the more alarming as it indicates that the majority (63%) of waste generated by EU-28 countries is mining waste. In general the member states with a higher share of mineral waste were those with significant activity in the extractive industry (such as Bulgaria, Finland, Estonia, Sweden and Romania). These waste categories stood for 3.0 tonnes, out of a total of 3.2 tonnes of mineral waste per capita, equivalent to 93.5% of the total mineral waste generated in EU-28 in 2012.

While in 2012 the European Union registered data on the quantity of mining waste generated, 734 million tonnes, that is, 29% of the total waste generated, the Eurostat statistics make no reference to the quantity of waste treated or recycled. This aspect indicates the low concern of the European Union for identifying viable solutions for reducing mining waste quantities.

### 8. Creating an European Superfund for the clean-up and rehabilitation of mining sites

In addition there is currently no European financial management for environmental clean-up and remediation in mining areas. We believe that such an European Union fund should prioritize the areas requiring clean-up and should provide the financial resources to be used by member states.

The benefit assessments performed at restored sites in the United Kingdom show that in general benefits are higher than costs.

## Specific observations

Draft bill article	Proposal	Remarks
Introducing a new article	Including <i>no-go zones</i> where mining activity and waste disposal should be forbidden	These are aimed to protect the environment, cultural landscapes and water courses by observing the Birds Directive, the Habitat Directive, the Water Framework Directive
Article 5 - Waste management plan (2)(a)(v) Using less hazardous substances for mineral resource treatment;	Transposing into the Directive the European Parliament Resolution for banning cyanide in mining	Slovakia, the Czech Republic and Hungary have already banned the use of cyanide in mining. Nevertheless the European Commission refused to transpose these decisions into a directive, on the grounds that "a general ban on the use of cyanide would have a negative impact upon employment". In reality independent studies contradict this rhetoric and more and more European communities face the danger of mining projects which involve the use of cyanide. From Greece, Romania, Spain, France, Bulgaria to Finland, citizens get mobilized

		to ensure that this toxic substance is banned.
Article 5 - Waste management plan (2)(a)(v) Using less hazardous substances for mineral resource treatment;	Allowing member states to derogate from the legal limits of cyanide concentrations in ore processing waste, or the possibility to completely cancel such limits by banning the use of cyanide in mining on their territories.	This omission actually encourages the use of cyanide, thus contravening to the spirit of the paragraph mentioned.
Article 5 - Waste management plan (2)(c)(ii) To prevent or at least to minimise long term negative impacts, generated, for instance, by the migration of aquatic or atmospheric pollutants from waste management facilities;	Including threshold values and monitoring them for certain cyanide compounds or co-products which, once in the environment, are extremely toxic for people and the environment: free cyanides, total cyanides.	Directive 2006/21/CE and hence the legal acts for transposing it into national legislation also provide no limits for other forms of cyanide, such as total cyanide and free cyanide, or for other cyanide compounds, such as cyanates and thiocyanates, which are all equally toxic.
Article 5 - Waste management plan (2)(c)(ii) To prevent or at least to minimise long term negative impacts, generated, for instance, by the migration of aquatic or atmospheric pollutants from waste management facilities;	Including threshold values and monitoring the quantity of hydrogen cyanide generated from processing operations and mining waste disposal.	The environmental impact assessment report submitted by the company SC Roşia Montană Gold Corporation, who proposed the cyanide-based surface mining at Roşia Montană, confirms that 30% of the hydrogen cyanide generated by the cyanidation operation at the processing plant will be lost in the air. Hydrogen cyanide is categorized as a toxic warfare gas in the Convention on the ban of the development, production, storage and use of chemical weapons and their destruction, opened for signing in Paris in 1993, and was used in the gas chambers at Auschwitz and Majdanek under the name of Zyklon-B. At Roşia Montană SC Roşia Montana Gold Corporation would use 10-13 millions of kilograms of sodium cyanide per year, for 16 years. About 134 kg of hydrogen cyanide (about 50 tonnes per year) would evaporate into the atmosphere every day. The half-life period of this extremely toxic gas into the atmosphere is more than 267 days.



<p>Article 5 - Waste management plan (3)(d) Describing the way how the environment and human health may be affected by the disposal of such waste and the preventive measures to be taken to minimise the environmental impact during operation and after closure.</p>	<p>Describing the way how the environment and human health may be affected by the disposal of such waste and the preventive measures to be taken to minimise the environmental impact during operation and after closure. <u>Designing a process for obtaining the free prior informed consent from the community as early as the feasibility study stage.</u></p>	<p>The community's participation in the decision-making on the location and building of tailings dams for mining waste is belated (at the EIA stage) and only consultative at this moment, although the community's consent should be obtained at the earliest stage and should be compulsory.</p>
<p>Article 6 - Informing and preventing major accidents (5) Member states shall ensure that the interested public may participate, in due course and effectively, in the preparation or revision of the external emergency plan to be prepared as per paragraph (3). In this line the interested public shall be informed with respect to any proposal, and relevant information shall be made available, including, among others, information on the right to participate in the decision making process and on the competent authority to whom they can address observations and questions.</p>	<p>Member states shall ensure that the interested public may participate and go through a process for obtaining the free prior informed consent from the community, in due course and effectively, regarding the preparation or revision of the external emergency plan to be prepared as per paragraph (3). In this line the interested public shall be informed with respect to any proposal, and relevant information shall be made available, including, among others, information on the right to participate in the decision making process and on the competent authority to whom they can address observations and questions. <u>The community's consent is compulsory in the case of waste management facilities in category A.</u></p>	<p>Closed or abandoned mines pose a high number of health and safety risks related to, for instance, tailings dam stability, unprotected steep slopes, toxic gases, explosive gases, contaminated water etc. Waste management facilities in category A will generate risks for the local community for hundreds of years.</p>
<p>Article 8 - Public participation</p>	<p>Public participation and <u>obtaining the community's free prior and informed</u></p>	<p>The collective right to give or refuse consent applies to all industrial projects, regardless of the geographical area</p>

	<p><u>consent</u> (<i>applicable to all subsequent paragraphs</i>)</p>	<p>where they are located, when they have a direct impact upon the local communities' lands, territories, resources and livelihoods.</p> <p>This principle should become a viable process involving the right to say "no" and the right to veto. The consent should be free (not forced); it should be given prior to the start-up of the respective amendment (not while it is ongoing); and it should be granted based on an informed decision (not ignorantly). This right, in order to make sense, should include the right to refuse consent for certain development projects or proposals. Such rights, although fully consistent with democratic consultation norms, are not equivalent to and should not be reduced to individual participation rights.</p>
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<p>Article 11 - Building and management of waste facilities (2)(c) The necessary measures were adopted to ensure the monitoring and periodic inspection of the facilities by competent persons in case that results indicate instability or water or soil contamination;</p>	<p><u>Data obtained from the periodical monitoring and inspection should be accessible to the public by publishing in a European Register for Monitoring and Control of mining sites. This Register shall also publish the data communicated annually by the Operator, as per Art. 11 point (3).</u></p>	<p>The information held by authorities should be accessible to the general public as soon as a waste management facility has been inspected, by publishing online the Periodical Monitoring and Inspection Reports. Such reporting should include detailed information on the facility condition, its latest progress since the latest control (stability, discharges and leaks to the environment, remediation actions, sanctions applied etc.).</p> <p>This register should be updated by each member state and the information should also be registered in an international language.</p>
<p>Article 12 - Closure and post-closure procedures applicable to waste management facilities (4) After closure the operator is</p>	<p><u>Introducing minimum time intervals during which the operator should be responsible for applying</u></p>	<p>Considering that waste management facilities in category A have a permanent nature, Article 12 should define minimum time</p>

<p>responsible for the maintenance, monitoring and control of the site and for the corrective actions, for a period of time which the competent authority deems necessary, considering the nature and duration of the hazard (...).</p>	<p><u>Article 12 point (4) in the case of waste management facilities in category A.</u></p>	<p>intervals, proportional to the life span of those waste facilities, during which the operator remains responsible for the applicable post-closure procedures. The establishment of such time intervals is also supported in the report "Guidelines on Financial Guarantees and Inspections for Mining Waste Facilities".</p> <p>A thorough study undertaken in 2001 by the International Commission on Large Dams and the United Nations Environment Programme found that on average one major incident per year occurs at mining waste facilities dams and that this figure has doubled between 1995 - 2001.</p>
<p>Article 13 - Preventing water quality deterioration and air and soil pollution</p>	<p><u>Introducing a new point to establish measures to prevent, reduce and treat acid mine drainage.</u></p>	<p>Acid mine drainage is a direct consequence of mining waste and one of the most hazardous waste generated. However the Directive makes no reference to this, having a simplistic approach to the mining waste issue.</p> <p>In his survey of Financial Assurance for Mine Reclamation and Closure, Kuipers notes that "actual clean-ups prove that mines with acid drainage cost much more to reclaim. Acid-generating mines pollute surface water and groundwater with toxics and carcinogens, requiring more expensive surface reclamation and long-term water treatment. As a result, acid generating mines' clean-up is an order of magnitude more expensive than that of non-acid generating mines."</p>
<p>Article 13 - Preventing water quality deterioration and air and soil pollution (2) The competent authority ensures that the operator has taken adequate measures to prevent or reduce</p>	<p><u>Including threshold values and monitoring the quantity of hydrogen cyanide generated from processing operations and mining waste disposal.</u></p>	<p>Observations from Article 5 - Waste management plan (2)(c)(ii)</p>

dust and gas emissions.		
Article 13 - Preventing water quality deterioration and air and soil pollution (6) In the case of a tailings dam with cyanides, the operator shall ensure the reduction of weak acid dissociable cyanides in the dam to the lowest possible level by using the best available technologies.	Allowing member states to derogate from the legal limits of cyanide concentrations in ore processing waste, or to completely cancel such limits by banning the use of cyanide in mining on their territories.	
Article 14 - Financial guarantee	<p>The financial guarantee:</p> <ul style="list-style-type: none"> <li>- shall cover the total environmental clean-up works (including long term monitoring and maintenance).</li> <li>- shall be submitted in the mine permitting stage.</li> <li>- shall be easily accessible.</li> </ul> <p>The guarantee should be in the form of a cash deposit, an insurance policy or a bank guarantee letter. Guarantees provided by the mother company shall not be accepted.</p> <ul style="list-style-type: none"> <li>- shall be available to the public together with the calculation method which generates the amount.</li> <li>- the calculation shall be based on cost estimates by third parties and shall include administration costs.</li> </ul> <p>(This ensures that works can be performed by a third party, in case the mining company is no longer able to fulfil its obligations).</p>	<p>Adequate financial guarantees have not even been established yet so far. The directive refers very vaguely to the calculation method of such guarantees.</p> <p>Moreover financial sureties are not generally required for catastrophic events such as earthquakes, floods, tailings dam failures, or the unanticipated onset of acid mine drainage after mine closure. Where such incidents have occurred, the civil society has generally been responsible for a large part of the cleanup costs.</p> <p>The time horizons for water treatment, monitoring (dam stability, surface subsidence etc.) and other after-care activities are often dramatically underestimated when the mining project starts. At the time of closure, however, guarantees turn out to be insufficient, as shown by the Guidelines on Financial Guarantees and Inspections for Mining Waste Facilities.</p> <p>In this line it is recommended to determine an appropriate discount rate to arrive at a net present value which must be set aside today to cover expenditures which lie often very far in the future.</p>

		Miller pointed out that "there is a qualitative difference between those sites which can be successfully rehabilitated or reclaimed at the end of the mine life, and others which require long-term care. The latter are often associated with metal mines in which acid rock drainage is a problem. In this situation, the run-off from the mine site contains acid and metal ions. Conventional rehabilitation methods may be unsuccessful in controlling the acid drainage and the only known solution is to provide for collection and neutralization of the site drainage for many years."
Article 17 - Inspections by the competent authority	<u>Introducing a new point to require that inspection activity should be made more transparent. Data obtained from the periodical inspection should be accessible to the public by publishing it in a European Register for Monitoring and Control of mining sites.</u>	The interested public should be informed as soon as possible about the inspection results at waste disposal facilities.
Article 20 - Inventory of closed facilities	<u>Article 20 should be correlated with an European Register for the Monitoring and Control of mining sites.</u>	In the absence of a unitary Register there will be no overall picture of this issue available at European level and the public will continue to be deprived of essential information necessary for informed decision making.

## The status of mining waste in Romania

The current status of mining waste in Romania is as follows:

-799 coarse waste dumps from the mining industry = 6900 ha;

-109 tailings dams from the processing of ferrous and non-ferrous deposits = 2140 ha.

The following counties are most affected by coarse waste dumps from coal or ferrous and non-ferrous mining: Gorj (4000 ha), Vâlcea (700 ha), Hunedoara (360 ha), Covasna (320 ha), Caraş Severin (310 ha), Mehedinţi (260 ha), Alba (250 ha).

The presence of tailings dams affects mainly the following counties: Caraş Severin (456 ha), Cluj (347 ha), Maramureş (317 ha), Hunedoara (315 ha), Harghita (163 ha), Bihor (78 ha), Suceava (54 ha), Bistriţa Năsăud (24 ha).

## Case studies

The environmental impact and the management of mining waste, particularly those containing cyanide, entail high environmental and health risks. Following the closure of many mining operations, Romania was left with a large number of tailing dams and mining waste dumps, with only a very small number of them being actually cleaned-up. What is even more serious is that the Romanian state does not currently hold the necessary economic resources to clean those sites, nor does it seek solutions in this line.

### Geamăna, Alba county

Geamăna was once a picturesque village in Apuseni Mountains, but only until the beginning of mining operations at Roşia Poieni in 1977, which became the largest copper mining operation in Europe. In 1986 the tailings from Roşia Poieni mining operations started to be discharged directly on Valea Şesii, and in time they entirely swallowed Geamăna village.

The tailings dam at Geamăna is the largest in Europe, and its level raises annually. The dam contains more than 130 million tonnes of mining waste. It is an open valley-type tailings dam, with only one rockfill embankment. The groundwater flowing beneath the dump and reaching the tailings dam has a pH between 1.5 – 2, and the red colours come from metals (Cu, Fe, Cr, Zn, As, Mn etc.) A toxic substance found in the Geamăna tailings dam is cadmium, which exceeds even by ten times the normal values. *"Cadmium is potentially carcinogenic, mutagenic, harmful for both plants and animals; in humans it affects liver, kidneys and lungs"*, says Ioana Laura Melenti, researcher.

Nevertheless in 2014 the state company operating at Roşia Poieni managed to obtain an environmental permit to continue operations. In response, DNA (National Anticorruption Agency) launched an investigation for corruption and misconduct in relation with three directors in the Alba Environmental Protection Agency. As a consequence those involved were condemned to prison by suspended sentence. Nevertheless the environmental agreement remained in force.

The Ministry of Environment evaluated that investments worth 15 million Euro would be necessary to clean-up the Geamăna dam. However the Romanian state has not taken any action to identify a funding source for that, while continuing to seek an investor to privatise the Roşia Poieni open pit.

### **Moldova Nouă, Caraş-Severin County**

The mining waste dumps at Moldova Nouă contain copper waste and cover an area of about 120 ha, are shaped like pyramid trunks, are 20-22 m high and contain about 30 million cubic meters of sandy tailings. The dumps are located on the left bank of the Danube, in the vicinity of protected areas.

The total area affected by pollution in Romania covers 1780 hectares, while in Serbia it covers 12000 hectares. The major source of pollution consists of the wind-borne fine particles of mining waste. The main effects of pollution are: degradation of agricultural land, degradation of crops and vegetation, health impairment of local communities and animals. Groundwater table pollution was also identified.

In 2014 the European Commission launched the infringement procedure for the waste dumps at Moldova Nouă. On 21 July 2016 the European Court of Justice decided that by failing to take the necessary measures to prevent dust pollution from Bosneag – extension tailings dam, operated by the copper and zinc mining company Moldomin in Moldova Noua, Romania has not fulfilled its obligations incumbent on it as per article 4 and article 13 paragraph (2) of Directive 2006/21/EC on the management of waste from extractive industries and amending Directive 2004/35/EC on environmental liability.

### **Târgu Jiu, Gorj county**

Gorj county has the largest area of coarse mining waste in the country (400 ha). In Târgu Jiu area waste dumps appear like artificial heaps raised on an originally flat land, or in other cases they fill a valley fully or partly; they are located outside the mining operations perimeter. During the last 50 years a total surface of 26472 ha was covered, of which 15490 ha agricultural land and 10982 ha forest areas.

Waste originates from mining operations at Lupoia open pit, 4 km distant. The waste dump was divided in two sectors located in Motru river floodplain and is 6 km long and 0.75 - 1.5 km wide. The waste dump was not cleaned-up.

### **Certej, Hunedoara County**

In Certej studies showed a critical level of soil pollution with cadmium. The mining activities performed in the area for hundreds of years generated *"acid mine drainage with high concentrations of heavy metals. The values for total cadmium and mobile cadmium range between 1- 7.3 mg/kg of dry substance, exceeding the maximum admissible value of 0.8 mg/kg, as per legal provisions"*. Investigation results showed *"a major toxicity in all organisms tested, with L(E)C50<1 mg/l, indicating an adverse effect upon aquatic biota"*.

In 2010 the non-reimbursable amount of 100.000 lei was allocated, by Governmental Decision 1034/2010, for closing some mining facilities, including the Valea Mireşului and Valea Mealu tailings dams in Certej area, Hunedoara county. Shortly afterwards 4 of these these bids were cancelled by the Ministry of Economy, Trade and Business Environment, including the bid for Certej. The ministry's press release said that the decision was based on an audit which showed that *"the bids were organised in breach of legal provisions, only to enable certain companies to win."*

At the same time the mining perimeter at Certej is leased to Eldorado Gold for reopening the gold mining operations. The Canadian company proposes now the opening of the first surface mining operation with cyanides in Romania, after the closure of all mines of this kind in 2006.

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### **Baia Mare, Maramureş county**

Aurul SA company was established for the recovery of gold from the tailings dams in the area, as well as for the cleaning-up of the dams after the reprocessing operations. Between 1999-2005 the company processed the waste in the tailings dams and produced 5.5 tonnes of gold. The processing plant was built in the close vicinity of Baia Mare city. Aurul SA justified their choice by its status of *"temporary location, with limited functions in time"*.

Although the company was supposed to process the 15 million tonnes of mining waste in the area until 2005, and then to close down, this activity was left aside, as priority was given to processing ore from Băiţa Nistru mine, which was richer in precious metals.

In less than one year since the commencement of works two leaks from the pipes transiting the city occurred, as well as leaks from pumping equipment.



In a media interview in June 2016, the Minister of Environment, Water and Forests, Mrs Cristiana Paşca Palmer speaks about the status of the tailings dams at Baia Mare: *“I was shocked to learn that the waste dump is located on one side of Baia Mare city, the tailings dam on another side, and they are connected by a pipe crossing the entire city. We speak about a pipe built to carry tailings with cyanide! The two tailings dams I visited, Bozânta 1 and 2, are now at different stages of closure and cleaning-up.”*