

**AMERICAN UNIVERSITY OF ARMENIA**

**Drawbacks in Armenian Environmental Legislation:**

**Case of Teghut Mining Project**

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## **List of Abbreviations**

<b>ACP</b>	<b>Armenian Copper Programme</b>
<b>RA</b>	<b>Republic of Armenia</b>
<b>UN</b>	<b>United Nations</b>
<b>MNP</b>	<b>Ministry of Nature Protection</b>
<b>NGO</b>	<b>Non-Governmental Organization</b>
<b>OECD</b>	<b>Organization for Economic Co-operation and Development</b>
<b>EU</b>	<b>European Union</b>
<b>NEAP</b>	<b>National environmental Action Plan</b>
<b>EIA</b>	<b>Environmental Impact Assessment</b>
<b>UNESCO</b>	<b>United Nations Educational, Scientific and Cultural Organization</b>
<b>USSR</b>	<b>Union of Soviet Socialist Republics</b>
<b>UNECE</b>	<b>United Nations Economic Commission for Europe</b>
<b>NAS</b>	<b>National Academy of Sciences of Armenia</b>
<b>GDP</b>	<b>Gross Domestic Product</b>
<b>ATP</b>	<b>Armenian Tree Project</b>

**Abstract**

This paper examines the social, economic, ecological and legal impact of Toghut mining project. The paper will concentrate on the legislation violated by Toghut Mining Project and will give policy options and recommendations. The aim of the paper is to reveal drawbacks of environmental legislation of RA and thus, make the government to denounce the man-made ecological disaster project of Toghut.

## Introduction

Currently Armenia is facing the worse ecological threat in its history. Over 75 ha of forest coverage are now being cut annually. At the current rate of deforestation, Armenia faces the probability of turning into a barren desert within 50 years.<sup>1</sup> In the ministerial report prepared by Ministry of Nature Protection about 86.5% of Armenian lands suffer from different degrees of desertification<sup>2</sup>.

Economists argue that the development of approximately 500 mines in Armenia accounts for only 3-4 percent of the country's gross domestic product (GDP)<sup>3</sup>, whereas the damage caused by them is incomparably higher. In Armenia there are more than fifteen tailing dumps containing silver, rhenium, lead, arsenic, copper, molybdenum, zinc, sulfurous compounds, and various chemicals used in extraction and ore processing that contaminate the nearby ecosystem, and affect food safety and human health<sup>4</sup>. It is important to mention that the Government of RA imposes neither fines nor payments on tailing dumps and miserable environmental taxes on "environmentally irresponsible" companies are too miserable.

Experts state that priority sectors for development in Armenia such as agriculture, tourism and mining are considered to be incompatible, as air, water or soil pollution caused by mining is unfavorable for either agriculture or tourism.<sup>5</sup>

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<sup>1</sup> Armenian Tree Project, <http://www.armeniatree.org/thethreat/threat.htm>

<sup>2</sup> Ministry of Nature Protection, Ministerial Report 2007-2011, (2011)

<sup>3</sup> K. Danielyan, "Mining Contributes Tiny Amount to Armenia's GDP" (Interview to Hetqonline), National statistical Service of the RA, Economic and Financial data for the RA, <http://docs.armstat.am/nsdp/#top>

<sup>4</sup> Save Teghut Civic Initiative, "Urgent appeal on the Issue of Teghut copper-molybdenum mining project", 2012

<sup>5</sup> Environmentalists again warn of damage caused by mines, ArmeniaNow.com 2011

This paper examines issues concerning environmental security of Republic of Armenia nowadays. The aim of this paper is to reveal the drawbacks of environmental security and environmental protection legislation and give guidelines to strengthen the enforcement and implementation of necessary changes directed to solve issues addressed. The paper will concentrate on the case of Teghut mining program as vivid example of violation of several international and human rights and will give policy options and recommendations directed to ensure state's obligation to guarantee environmentally safe life.

According to recent reports, the Teghut mining project will not only have a destructive effect on the environment of the region (357 ha of forests will be cut), but it will also have negative impact on the health of the residents of the nearby populated areas. Several ecologists state that many of the plants and animals in Teghut are included in the International Red Book. They argue that the tailing dump containing of an enormous amount of chemicals and one of the biggest in the region will be created for mining project and will no doubt be a fatal demolition not only for Teghut, but also have disastrous impact on Armenia and its neighborhoods<sup>6</sup>.

Thus, the aim of the paper is to reveal the drawbacks and loopholes of environmental legislation of Armenia and as a result to help RA to fulfill its legal obligations under its domestic legislation and under the international covenants it has ratified. The aim of the paper is to analyze the case of Teghut mining as one of the most vivid examples of irresponsible mining in Armenia and to develop recommendations on how to overcome the issues identified.

Therefore, environmental protection should constitute a key element of Armenia's developmental strategy if the country is to reach sustainability in its development.

### **Objectives**

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<sup>6</sup> Policy Forum Armenia (2010), " The State of Armenia's Environment"



The objectives of the paper is to come up with the policy options and some recommendations for the Government of RA, National Assembly, Ministry of Natural Protection, Ministry of Energy and Natural Resources which are directed to ensure state's obligation to guarantee environmentally safe life, reveal the drawbacks and loopholes in the environmental legislation, and to identify violated rights in the case of Teghut mining project.

### **Methodology**

Mainly secondary data were used. The study was conducted using a research method of legal analysis. The aim was to analyze all documents concerning Environmental legislation of RA. These texts were analyzed for the study: legal documents regulating and planning environmental activities in Armenia, International Treaties, also various guidance publications on issuing a planning permit and planning decision-making process were used and publications of environmental and health experts.

## **Armenian Environment Security**

As mentioned in OSCE's CASE strategic plan (2009) environmental security is defined as problems linking environmental conditions and national security interests and this issues are of increasing concern in world affairs, though at present there is little coherence around the world in terms of its definition, threats to its stability, and policy responsibilities. It states that "threats to national security include resource and environmental problems that reduce the quality of life and result in increased competition and tensions". It is worth mentioning that Armenia has taken several steps towards ensuring environmental security and sustainable development thus adopting the State Security Doctrine in 2007, which consider safety environment as a part of the National Security, the Sustainable Development State Program, which addresses environmental and security issues and the National Environmental Action Plan in 2008 and several amendments to laws concerning environmental protection.<sup>7</sup>

The National Security Strategy of Armenia states that the government should "form favorable environment for the present and future generations; maintain an efficient utilization of natural resources, with comprehensive environmental regulation and protection".<sup>8</sup> Thus, environmental protection should constitute a key element of Armenia's developmental strategy if the country is to reach sustainability in its development.

According to Armenian Tree Project NGO "a commonly accepted definition of sustainable development is a pattern of resource use that aims to meet human needs while preserving the environment so that development meets the needs of the present without compromising the ability of future generations to meet their own needs." However the current

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<sup>7</sup> OSCE, "Civic Action for Security and Environment" Strategic plan(2009) available at <http://www.osce.org/eea/71005>

<sup>8</sup> National Security Strategy of RA(2007)

economic development trends in Armenia, particularly in the areas of forest management and mining activities (gold, molybdenum, copper and soon, uranium), are not being managed and regulated with the goal of sustainability. Meanwhile foreign and domestic corporations are being allowed to plunder the nation's natural resources, and are leaving behind a legacy of wasted landscapes, toxic tailing dumps, polluted rivers, and widespread public health problems. But it is important to mention that there is a growing public awareness and concern for these issues in Armenia.<sup>9</sup>

According to Policy forum Armenia report regulatory structure is a serious issue in the evaluation of possible environmental impacts and the enforcement of the implementation of mitigation measures. At present, there are no clear guidelines about the process of evaluating and enforcing the required mitigation measures and a strong and fully independent government agency is needed to ensure that all of the recommended mitigation measures are implemented and that there are no regulatory violations resulting from the operation of a given project.<sup>10</sup>

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<sup>9</sup> ATP Advocates for Sustainable Development in Armenia(2009),

<sup>10</sup> Policy Forum Armenia (2010), " The State of Armenia's Environment"

## **Environmental Legislation and the Institutional Framework in Armenia**

### **Environmental Laws**

Since independence, the Republic of Armenia (RA) has adopted a number of laws relating to environmental protection. Article 10 of the Constitution of RA guarantees the protection of the environment by the State, as well as the rational use and renewal of natural resources. The legal framework - which reflects, inter alia, the deliberations of the World Summit in Rio on Environment and Development - consists of the Law on Environment Impact Assessment (EIA) and a number of other laws which are listed below.

- Principles on Nature Protection of RA (1991)
- RA Law on Specially Protected Areas (1991)
- RA Land Code (2001) (a prior code was adopted in 1991)
- RA Water Code (2002) (a prior code was adopted in 1992)
- RA Code on Underground Resources (2002) (a prior code was adopted in 1992)
- RA Forest Code (1994)
- RA Law on Atmospheric Air Protection (1994)
- RA Law on Environmental Impact Assessment (1995)
- RA Law on Environmental and Nature Use Charges (1998)
- RA Law on the Purposeful Use of Environmental Charges paid by companies (2001)
- RA Law on Flora (1999)
- RA Law on Fauna (2000)
- RA Law on Hydro-meteorological Activity (2001)
- RA Law on Lake Sevan (2001)

- RA Law on Fauna (2000)
- RA Law on Complex Program for the Lake Sevan Ecosystem Restoration, Conservation, Reproduction and Use (2001)
- RA Law on the Annual Program for the Lake Sevan Ecosystem Restoration, Conservation, Reproduction and Use (2001)
- RA Law on Environmental Education (2001)
- RA Law on Seismic Protection (2002)
- RA Law on Concession of Subsoil for Surveying and Mining for the Purpose of Exploiting Useful Ores (2002)
- RA Law on Amending the Code on Administrative Violations (2002)<sup>11</sup>

### **Institutional Framework**

At the national level, the Ministry of Nature Protection has the mandate for environmental protection, the sustainable use and regeneration of natural resources and the improvement of the environment. These functions are carried out through the following agencies:

(1) The State Environmental Inspectorate and its 11 Regional Environmental Inspectorates who perform the enforcement of laws and regulations pertaining to air and water pollution, land use, biodiversity conservation and forest protection;

(2) The State Environmental Expertise, which is a body responsible for Environmental Impact Assessment;

(3) The Environmental Monitoring Center, which is responsible for air and surface water quality monitoring; and

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<sup>11</sup> Armenian Social Investment Fond ,“Guidelines on Environmental Procedures” 2011

(5) Hydromet, which is responsible for monitoring water flow, water balance and water level fluctuations, organization of research in the field of environmental pollution and weather forecasting<sup>12</sup>.

At the regional level, a marz carries out the following functions:

- i. participates in the development of national environmental programs and make provisions for their implementation within a marz;
- ii. enforces environmental legislation within a marz;
- iii. supports specially protected areas, natural resource utilization, and executes measures against illegal hunting, fishing, and logging; and
- iv. works in cooperation with environmental NGOs<sup>13</sup>

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<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

## **State of Armenian Mining Sector**

In the article “Armenia Must Change Its Mining Policy” by H. Sanasaryan Armenian mining sector is analyzed. It reports that in recent years, in our country, government attitude toward underground resources has dramatically changed. In particular, the process of permitting exploration and exploitation of mineral resources has changed. Under the guise of simplification and acceleration of the process of project reviews, including the reviews of plans for the exploitation of underground resources, the former existing process has been decimated.<sup>14</sup>

The impunity in the case of Teghut mining project has become a precedent and allows Armenian government to launch similar projects with major human rights violations and threat to the environment: (a) iron mining in Hrazdan, in the stage of exploration, very close to lake Sevan, which is the biggest reservoir of drinking water in the Caucasus region; (b) gold mining in Amulsar, near Jermuk mineral resort; (c) expanding of the mining area in Qajaran, where 6 villages will be fully destroyed and abandoned for mining (villagers have been resisting this decision for months already), and many others. Since 2007, Armenian government has announced mining as one of the leading directions of economic development.<sup>15</sup> Thus the paper discusses several cases of ecological concern in Sotq, Hrazdan, Amulsar, Alavedi and Qajaran.

### **Sotq**

Environmentalists are concerned over the problems of Lake Sevan. Mining in the territory of Lake Sevan is strictly prohibited by the article 10 of the Armenian Law on Lake Sevan. According to the source an environmental organization Ecolur spread a statement warning that toxic compounds from mines operating in the Sevan drainage basin in Sotq,

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<sup>14</sup> H. Sanasaryan, “Armenia Must Change Its Mining Policy”, 2008

<sup>15</sup> Save Teghut Civic Initiative, “Urgent appeal on the Issue of Teghut copper-molybdenum mining project”, 2012

Shorzha and Jil intoxicate the lake hour by hour. However, this problem remains unsolved. The company that develops the mines in Sotk and Meghradzor and manages the Ararat gold recovery factory, recently began the setting up of some new equipment for pounding gold ore that it hopes will expedite the plant's work.<sup>16</sup>

### **Hrazdan**

Environmentalists express their concerns over plans for an open-pit iron mining operation as close as only 650 meters to the central Armenian town of Hrazdan, which can cause pollution with heavy metal residue and generate a number of life-threatening diseases among the local population. According to specialist the wastes will get into the river; and as a result pollute fresh drinking water. There are four water springs in the mine hill valley that feed four towns, namely Hrazdan, Tsaghkadzor, Charentsavan and Abovyan, and make 30 percent of Yerevan water. Furthermore, the dust from mining contains non-transformable metals that decrease soil fertility by some 90 percent, cause infertility in humans, lung cancer and birth defects. It should be mentioned that the Atarbekyan hydro-electric power plant neighbors the mine and as the plant is old it might be damaged from the open-pit mining method that implies explosions. In 2011, the Fortune Oil company purchased iron mines located in the Hrazdan, Abovyan and Syunik provinces (Svarants village) for \$24 million from Nagin LLC belonging to MP Tigran Arzakantsyan and Suren Ayvazyan, who is son of former minister of environmental protection Vardan Ayvazyan. Mr Ayvazyan currently chairs the Standing Committee on Economic Issues of the National Assembly of Armenia. In 2008 the Ministry of Environment gave a positive expert report on environmental impact of the exploitation of the Hrazdan mine<sup>17</sup>.

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<sup>16</sup> Gayane Mkrtychyan (2011), "Concerns in Sotk: Environmentalists again raise issues over gold mine near Sevan"

<sup>17</sup> Gayane Mkrtychyan, (2008) "Mining discontent: Environmentalists again raise concerns over plans to dig for iron near Hrazdan"



So, the unclear line between government and big investors is a general cause rising from problems of enforcement and implementation of the appropriate regulations.

### **Amulsar**

According to the article by Abrahamyan G.,(2012)there are concerns about operating the Amulsar Gold Mine which is located 13 kilometers from Jermuk health resort city. There are serious concerns that the operation of the Mine would endanger the future of the city. Environmentalist caution that an open-pit gold mine will unavoidably result in hazardous emissions that would create ecological threats for Jermuk and for Armenia's second-largest reservoir, Spandarian, which is situated two kilometers away. Also at risk are another reservoir (Kechut) and five nearby villages. In 2005, the government granted a free-of-charge, 25-year license to Britanian company Geoteam, which is a subsidiary of Lydian International Ltd, a company in which major stakeholders are the International Finance Corporation and the European Bank for Reconstruction and Development. The company hopes to extract the 2.5 million ounces of gold believed to lie in Amulsar Mountain, near Jermuk. According to the source the operations are slotted to begin in 2014.<sup>18</sup>

### **Alaverdi**

The report "Mining in Armenia" discusses the only facility for copper smelting in Armenia, Alaverdi smelter which has a total capacity of 40,000 tons of copper concentrate per year. However, despite its relatively small production volume, Alaverdi frequently raises concerns regarding the environmental damage it causes. Unfortunately the town is notorious for its polluted air and the high incidence of fatal diseases. According to the report currently there are no provisions in place to reduce the environmental impact from the smelter operations. It is

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<sup>18</sup> Abrahamyan G.,(2012) " Armenia: Is Gold Mine a Blessing or a Curse?" Available at <http://www.eurasianet.org/node/64961>

important to note the filters to capture dust and toxic fumes were once in place, but they have been out of order for years now without replacement. Second concern having high importance is labor safety. However, the company blames the absence of environmental protection measures on the lack of financial resources owing to the shortage of copper concentrate that the smelter receives to process. Alaverdi competes with foreign smelters for the copper concentrate from Qajaran and other mines because copper producing mines are not formally linked to the smelter. In order to relieve the dependency on external copper concentrate supply, the company that owns the Alaverdi smelter is currently developing a new mine in Teghut.<sup>19</sup>

### **Qajaran**

The ecologists are worried about the ecological environment in Qajaran and Kapan. Research carried out by the team of Armen Saghatelyan (the director of Center for Ecological-Noosphere Studies) found hyper-toxic element in the dust. The source is found in the tailing dams. The experts have found mercury and cadmium, which are the most dangerous ones in hard metals. A. Saghatelyan said that they found out that those tailing dams are being used to cultivate potato, beans, vegetables and etc. They have checked the milk of cows and found elements of mercury, cadmium, arsenic in the milk. It was found out that the children living in Qajaran and that where sent to medical examination suffer from surpass of certain chemical hard metals.<sup>20</sup>

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<sup>19</sup> Christina Stuhlberger, "Mining In Armenia", 2012

<sup>20</sup> Panorama.am "Qajaran, Kapan – Ecological environment under Danger", Nov 25, 2008

As Sanasaryan reports about a decade ago, all plans of exploitation of resources were studied carefully by the corresponding government oversight departments, where each department used to base its conclusions on the conclusions of the studies conducted by its professional staff. Now, the studies have been replaced by the opinions of individual representatives forming an inter-departmental committee, whose conclusions decide the permitting process. While, in 2005, the Minister of Nature Protection, dissolved the geology department's scientific council, which used to review and summarize the reports of all geologic investigations, and had a decisive role in the decision making process of permitting (or not permitting) the exploitation of a particular mine. The Minister also dissolved the government committee on ecological/environmental assessments, whose task was to summarize the technical plans of proposed projects and the environmental impact assessments of these plans, which were performed by independent experts. Now, the same Ministry accepts, examines and approves the project plans, evaluates the environmental impacts of the proposed projects and makes decisions/conclusions whether to exploit a given mine or not, without the support of professional structures to study and to investigate the proposed projects and their possible consequences.<sup>21</sup>

Thus, certain projects, which create very harmful consequences for the people of Armenia and for its government get approved and even get carried out.

The review by Sansaryan shows that the policy in the sphere of mining industry is not developed yet. He notices that in the Republic of Armenia (RA) there is a lack of regulatory codes and standards according to which it can be decided which mines to exploit, which mines to preserve for future generations, which areas to keep out of reach for mining, how fast an

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<sup>21</sup> H. Sanasaryan, "Armenia Must Change Its Mining Policy", 2008

underground resource can be mined and depleted, in other words, the annual limits for mining certain minerals, etc. Thus, Armenia's mineral resources are endangered to disappear in a couple of decades because of the current rush to mining minerals and using current mechanization and ore processing methods. However, if these resources were to be rationally managed, for example, by using efficient processing techniques, the country's mineral resources may last a few hundred years.<sup>22</sup>

Thus, the article sums up that the mining companies make their profits, certain government officials and agents gain a certain amount of wealth, while the people in Armenia are left with land devastated and polluted with mine tailings, empty cavities inside the hills and the mountains, destroyed pastures of forests and of pristine streams, rivers and gorges. Meanwhile it looks like there is a large interest on the part of foreign companies to mine in Armenia, though after studying the mining project plans and associated documents, it becomes clear that many local influential individuals are partners in these projects. This great rush to mining in Armenia is a result of the ease with which companies obtain access to mines, bypass the laws and gain profits without any penalties. These huge profits from mining and ore processing are possible only because the mining/milling companies avoid paying the billions of drams (350 dram = 1 US dollar) in taxes and also in polluting fees to the RA government, as should be required by law.<sup>23</sup>

In Armenia, the mining industry is allowed not to compensate for the economic damage it inflicts upon the surrounding communities as a result of its operations. Even though the economic damage is calculated provisionally and is not subject to payment, it (the calculation)

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<sup>22</sup> H. Sanasaryan, "Armenia Must Change Its Mining Policy", 2008

<sup>23</sup> Ibid.

allows estimating the effect of the plant's operation on the surrounding environment". It would be interesting to know by what rationale the legislators and government officials not seek to add to government treasury large sums of money generated from mining industry. For example, in Teghut mining project design document, it is written that the exploitation of the mine will cause an annual economic loss of 2,078 billion dram (300 dram = 1 dollar), yet, the mining company is allowed not to pay that amount into the government treasury. (Note that it has been discovered that the number 2,078 billion dram represents an intentional miscalculation because the real loss is a far greater number).<sup>24</sup>

The law of the RA, "Regarding the Nature Preservation Payment Quotas", 3rd paragraph, states: "The dumping (storage) fees for dumping industrial production and consumption wastes into the environment are set as follows, per ton of waste

- I. for 1st class hazardous wastes the fee is 48,000 dram
- II. for 2nd class hazardous wastes the fee is 24,000 dram
- III. for 3rd class hazardous wastes the fee is 4,800 dram
- IV. for 4th class hazardous wastes the fee is 1,500 dram
- V. for non-hazardous wastes ( exempting wastes dumped by mining legal entities and non-hazardous wastes generated by disturbing the land surface and through construction activities), the fee is 600 dram
- VI. for non-hazardous wastes dumped by mining legal entities the fee is 0.<sup>25</sup>

During the Soviet period, since all natural resources and their exploitation belonged to the government, and hence the government was responsible for waste handling and storage,

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<sup>24</sup> H. Sanasaryan, "Disastrous Teghut", 2011.

<sup>25</sup> H. Sanasaryan, "Armenia Must Change Its Mining Policy", 2008

remediation, etc., there were no dumping fees set for mining operations. However, now, the country has given the right to exploit its natural resources to private entities, often to foreign companies (i.e., the copper-molybdenum mine at Kajaran, the gold mine at Sotk, etc.). While mining has been privatized, the process of handling the mining waste has remained the same. Especially the long-term waste management, which requires large financial commitments, has remained the responsibility of the government. And how can the government pay for the expense of handling such large volumes of waste, when most of the profits go to mining entities? It is necessary to note that mine waste, in particular mine tailings and associated storage sites, require hundreds of years of management in order to prevent continuous contamination of the environment from these sites.<sup>26</sup>

It is written in the draft "Economic loss describes the company's impact on the environment. Although the economic damage is calculated conventionally, and is not subject to the payment, it allows us to assess the impact of business activities on the environment ". One gets the impression that "Armenian Copper Program CJSC" Company and other companies engaged in mining industry are considered to be the successors of the Soviet Armenia. Analysis-assessment of benefits and costs of the projects being implemented under the Soviet government were done only to find out how the implementation of the particular project is justified. At that time, all we had was the property of the Soviet Republic of Armenia and therefore there was no need for compensation of damages. We think the exemption of companies from compensation of damages is just damage against the Armenian state.<sup>27</sup>

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<sup>26</sup> H. Sanasaryan, "Armenia Must Change Its Mining Policy", 2008

<sup>27</sup> H. Sanasaryan, "Disastrous Teghut", 2011.

Currently, the waste rock is considered to be non-hazardous, while mine tailings are classified as 4th class hazardous waste. However, it is well known that both types of wastes contain heavy metals and chemical compounds harmful to life – both wastes can be teratogen, mutagenic, damaging to the immune system, to the central nervous system, also can cause damage to various organs, etc. The main difference between the 2 types of wastes is that the tailings are a much more concentrated form of waste, the heavy metals and the chemicals in that waste are soluble, are readily available to the environment, are dispersed by the wind as dust, etc. The classification of both wastes is scientifically unfounded.<sup>28</sup>

Thus, it is clear that by classifying mine waste as non-hazardous and not charging the mining entities fees for their waste storage and waste discharge into the environment, the government is allowing Armenia to be looted of its natural resources without compensation. The above mentioned law, “Regarding the Nature Preservation Payment Quotas”, encourages the exploitation of mines with low mineral content, which will obviously produce environmental and other disasters on a far greater scale. These disasters are:

- very fast consumption of the remaining mineral deposits
- large scale destruction of the natural landscape and ecology, and a permanent contamination of the environment
- destruction of fresh water sources, also contamination and thus, deterioration of the quality, of the remaining water supply
- loss of arable land, forests, orchards, pastures, with large tracts of land becoming useless and contaminated

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<sup>28</sup> H. Sanasaryan, “Armenia Must Change Its Mining Policy”, 2008

- loss of agricultural/food production, also loss of farming jobs and food processing jobs, contamination of the produced food, meaning deterioration of food quality
- lowering of soil productivity due to contamination
- deepening and spreading of poverty
- increase in disease occurrences for the remaining wildlife and humans
- immigration to outside countries
- further weakening of government <sup>29</sup>

Mining industry can be economically useful only when its activities are contained and regulated. Exploiting mineral resources at large scales and also, exploiting many mines concurrently, produces many insurmountable problems. Particularly given the size of Armenia, covering only 30 thousand square kilometers, very soon it will become impossible to sustain agriculture and normal conditions to support human life in the country because of the current rush to mining.

In planning future development for the country, one has to consider the fact that everyday less and less of the non-renewable mineral resources are left in the ground. Armenia has a high altitude terrain of volcanic origin, and therefore is rich in multi metal deposits. If we do not change our policy toward the exploitation of underground mineral resources into a development policy that is safe for the people and its government, we will end up with one huge mining enterprise covering the entire surface of Armenia in a very near future.<sup>30</sup>

The recent report about Armenian mining sector prepared by Zoi Environmental network states that the Armenian economy heavily depends on mining, but the way this sector has

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<sup>29</sup> Ibid.

<sup>30</sup> Ibid.



developed over the last decade poses several problems. Thus Armenia , like many other post-Soviet countries, have developed low-value raw material exports rather than high-value finished industrial products and that is why the new private companies continued the old practices of disregarding the environmental consequences of mining. The report argue that the sector needs fundamental reforms in order fuel the sustainable development of Armenia’s economy which in turn requires strong governance rooted in a democratic dialogue that includes all stakeholders and promotes transparency.<sup>31</sup>

Thus, it should be the primary interest of the RA to tame the mining interests, to return the right of exploitation of natural resources to the government, to forbid the export of mineral rock concentrates, to establish metallurgical operations, which use new and efficient extractive technologies that are safe for the environment, and which can extract rare and expensive metals from the waste stream. Also, the government of RA should charge fees to the mining industry for the economic damages it causes as a result of its operations, and dumping fees for the waste rock and mine tailings, both of which end up contaminating the environment. In other words, the mining interests must be adjusted to the needs of the people and its government.<sup>32</sup>

## **Problem Description: Teghut**

### **History**

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<sup>31</sup> Ch. Stuhlberger, “Mining In Armenia” , 2012

<sup>32</sup> H. Sanasaryan, “The Exploitation of the Teghut Mine will have Disastrous Consequences”, 2012

Teghut forest is one of the best-preserved forest areas in the country with rich biodiversity, including about 200 species of plants, 55 species of mammals, 86 species of birds, 10 species of vermigrades and 4 species of amphibians. Many of these species are rare and endangered, 6 plants and 29 animals are included in the Red Book of Armenia. The Teghut copper-molybdenum deposit was discovered in 1972. In 2001, the license for exploitation of the mine was granted to the Armenian Copper Programme (ACP) closed joint stock company. About 81 percent of shares of this company belong to the so-called Vallex F.M., registered in Liechtenstein and having no other publicly available information.<sup>33</sup>

Land allocation is as follows: 1,970 hectares have been provided to the company, of which 1,589.6 are forested and 380.4 are community lands. It is important to mention that the 260 species of insects presented in the EIA and Plan belong not to the forests of the Teghut mine of the Lori marz but to the forests in the environs of Teghut village (neighbouring the town of Dilijan) in the marz of Tavush.<sup>34</sup>

ACP suggests extraction of copper and molybdenum through open mining over a 50- to 70-year period. The production capacity of Teghut mine is estimated by ACP to be 7 million tons annually, with a projected output of \$87,664,000. Project intends employment of 1430 people. 1,491 hectares (ha) hectares of land were allocated for mining, of which 82% (or 1,232 ha) is covered with forests. The mining project plans clear-cutting of 357 ha of the forest. Mine exploitation will also result in 500 million tons of poisoned waste full of heavy metals and about 600 million of tons of other kinds of waste<sup>35</sup>.

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<sup>33</sup> Save Teghut Civic Initiative, "Urgent appeal on the Issue of Teghut copper-molybdenum mining project", 2012

<sup>34</sup> H. Sanasaryan, "The Exploitation of the Teghut Mine will have Disastrous Consequences", 2012

<sup>35</sup> "Scoping Review of the Teghut Copper-Molybdenum Project" (2001), Strathcona Mineral Services Ltd., Canada

Implementation of the project has begun. It did so after the adoption of enabling decisions by the Republic of Armenia (RA) Government in November 2007. In May 2008, ACP signed an agreement with the VTB Bank (Russia) to receive a loan equivalent to 249.5 million dollars for a 12-year development of the Teghut mine. As of today only a limited amount has been transferred to ACP due to the global financial crisis. The preparatory activities for mining, including the cutting of several dozens of hectares of the forest, building road infrastructure and construction of the ore-processing plant, are being done with the company's own resources. According to recent statements by ACP and the bank's leadership, VTB will be ready to provide the loan to ACP in September 2010.<sup>36</sup>

### **Environmental and Health Concerns**

The expediency of the project has been challenged by international as well as local experts. Strathcona Mineral Services Ltd., commissioned in 2001 by ACP itself to review the mining project, questioned the environmental safety as well as the economic viability of the project<sup>37</sup>. Local experts in their turn conducted an analysis of the potential environmental impacts - deforestation, water pollution, and loss of biodiversity, grounding their judgments on the baseline data collected by ACP<sup>38</sup>.

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<sup>36</sup> <http://bnamard.blogspot.com/2010/09/teghut.html>

<sup>37</sup> Ibid.

<sup>38</sup> Independent Expert Opinions, 2008, Yerevan, Armenia: (A) Geological expertise by Dr. Hrachik Avagyan, architect-geologist, PhD in geological-mining studies, Institute of Economics after Kotanian, National Academy of Sciences of the Republic of Armenia; (B) Ecology of water resources expertise by Dr. Knarik Hovhannisyan, ecologist of water resources, engineer of hydro techniques, PhD technical sciences; (C) Flora expertise by Dr. Pavel Ghambaryan, PhD of biological sciences; (D) Fauna expertise by Dr. Martin Adamyan, PhD of biological sciences, leading specialist of the National Academy of Sciences of the Republic of Armenia, Institute of Zoology, Director of the Museum of Zoology, (E) Economic assessment of environmental damage by Dr. Edita Vardgesyan, Economist, Lecturer at the Nature Management Dean of the State University of Economy.

According to experts, the clear cutting of the planned 357 hectares of mountain forests and development of the mining infrastructure will likely be accompanied by drying of water sources and soil erosion and result in the actual destruction of more than 1000 hectares of forests. Entire ecosystems, including habitats of endangered plants and animals will be jeopardized. Tailing dumps containing silver, rhenium, lead, arsenic, copper, molybdenum, zinc, sulfurous compounds, and various chemicals used in extraction and ore processing will contaminate the nearby pristine valleys of Shnogh River and its tributaries, affecting food safety and human health<sup>39</sup>. Likelihood of landslides will increase. There is a risk of failure of the enormous tailing reservoir, as the mine is located in a highly seismic zone, in which case the entire region will be affected, including the valley of the Debed River that crosses into the neighboring Republic of Georgia. It is important to mention that RA imposes neither fines nor payments on tailing dumps. The environmental impact assessment (EIA) of the project conducted by ACP and accepted by the government has failed to fully consider the above-cited consequences. The EIA did not do a serious analysis of the loss of biodiversity and completely disregarded risks to human health and emergencies. It made most of its environmental cost estimations based on 15-year old methodologies of the Russian Federation and, conspicuously, disregarded the requirements of the national legislation. Environmental damage was considered only for the first 8 years of the 50-70 year project. As a result, the costs of mining were undervalued against the benefits and the project was presented to the public as having critical importance to the national economy. To-be-affected communities were not adequately informed about the potential environmental impacts on their livelihoods. To the extent that any public participation did take

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<sup>39</sup> Molybdenum prevent the formation of bones in the embryo. This causes a series of disorders with nerve system, liver, kidney, lungs, teeth, as well as cardiovascular diseases. Sulfur is mutagen and endorses the decline of soil fertility. Arsenic violation causes the tissue respiration, skin cancer, psychos, memory and speech disorders.

Zinc causes a dry cough, nausea, noise in ears, insomnia, respiratory and lung diseases. Lead reduces the measure of micro-organisms in soil.

place, they were perfunctory and unproductive as all the major decisions were already made. Authorities in charge of the review of EIA ignored the miscalculations and false data provided by ACP. Risks for transboundary impacts and emergency situations as well as adherence to Armenia's international obligations were disregarded completely. The call of NGOs to arrange for independent and impartial environmental impact assessment by international experts was rejected by the Armenian government.<sup>40</sup>

### **Economic Impact**

According to Policy Forum Armenia's report more than \$20 billion in wealth is stored within the mine and it is estimated that Armenia's state budget will earn approximately \$600-650 million in taxes and fees during the project's lifecycle (25 years). But if discounted at 6 percent annually, the net present value of the stream of these future revenues would be \$255-\$332 million. This means that by giving away an asset worth \$20 billion, Armenia will receive only between 1.2-1.7 percent of its value in tax revenue in addition to some employment and related local economic activity. In addition, the country will inherit severe, long term environmental problems, including irreversible damage to the forest, soil, and water resources, besides health impacts.<sup>41</sup>

According to the EIA drafted by ACP, the exploitation of the mine will supposedly cause the RA damages worth only 2.508 billion drams (6.27 million USD) including the loss of 127,000 trees. In the Plan, ACP has reduced the cost of damage to 2.07 billion drams (5.17 million USD). It must be noted that this sum will not enter the state treasury, furthermore, it is, as yet, not clear as to which RA law gives such privileges to mining companies and in general, if, in fact, such a

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<sup>40</sup> Save Teghut Civic Initiative, "Urgent appeal on the Issue of Teghut copper-molybdenum mining project", 2012

<sup>41</sup> Policy Forum Armenia (2010), " The State of Armenia's Environment", State of the Nation Series

Available at [http://www.pf-armenia.org/fileadmin/pfa\\_uploads/PFA\\_Environmental\\_Report.pdf](http://www.pf-armenia.org/fileadmin/pfa_uploads/PFA_Environmental_Report.pdf)

legal norm exists or whether it is being done by verbal order. During the construction period (3.5 years) 1100 jobs will be created, and during the exploitation period, 900 jobs will be filled (1432 according to the “Operational Plan”). Over the duration of 28.5 years, ACP will pay a total of 101.7 million dollars to the RA in profit tax and will make a net profit of 406.2 million dollars.<sup>42</sup>

Meanwhile, it should be mentioned that there is no independent economic analysis of the full value of the impact on ecosystems or biodiversity which will include financial benefits from tourism, sustainable livelihoods, groundwater recharge, natural water filtration, carbon sequestration and other beneficial environmental services, etc.

### **Social Resistance**

The environmental NGO community has raised its concerns over the environmental impact of the Teghut mining project since the first public hearing in March 2006. On September 2010, the three NGOs (Transparency International Anti-corruption center Armenia, EcoEra Ngo, Helsinki Citizens Assembly Vanadzor) that had brought the lawsuit to address a communication to the Compliance Committee of the Aarhus Convention in Geneva. This communication specified the violations of the Aarhus Convention. The Highest Court of Armenia finally judged that NGOs have no legal standing in respect to the Teghut mining project in April 2011. In March 2010, the case was discussed at the Compliance Committee’s meeting in Geneva with the participation of communicants and the Armenian Government. The

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<sup>42</sup> H. Sanasaryan, “The Exploitation of the Teghut Mine will have Disastrous Consequences”, 2012

Compliance Committee recognized the failure of the Republic of Armenia to ensure effective public participation in respect with decisions regarding operation of Teghut mine.<sup>43</sup>

Hence, the lack of government responses and legal violations obliged concerned organizations and individuals to raise the problem to the international organizations to intervene.

### **Legal Infringements**

In the opinion of experts, operation of the Teghut mine is in breach of the principles of the UN Framework Convention on Climate Change, UN Convention on Biodiversity, UN Convention on Combating Desertification, UNESCO World Heritage Convention, European Landscape Convention, UNECE Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) and UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) - all signed and ratified by the RA.

In addition, the decisions related to Teghut mining violate provisions of the RA Constitution and a number of national laws, including RA Land Code, RA Water Code, RA Mineral Code, RA Law on Environmental Impact Expertise, RA Law on Allocation of Mineral Resources for Exploration and Exploitation (RA Law on Concession), RA Law on Plants, and RA Law on Animals.

Inhabitants of Shnogh and Teghut villages (located in Northern Armenia) are not the only victims of the violations caused by this mining program.<sup>44</sup> The project will affect the whole population of that region and eventually the entire population of Armenia as the Constitutional

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<sup>43</sup> Decision of the United Nations Economic Commission for Europe (ACCC/C/2009/43), on the decisions of the Government of Armenia regarding the exploitation of the mine in Teghut and its adjacent territory does not comply with the Aarhus Convention.

<sup>44</sup> A number of local residents of Teghut and Shnogh communities have applied to the European Court of Human Rights in regard with the loss of their property and inadequate compensation

right of the population to live in a healthy and safe environment, the right of Property and the right to freely participate in cultural life will be violated.

Several high profile experts claim that as a result of Teghut mine exploitation, Debed River, a trans-border river flowing towards the neighboring country of Republic of Georgia, will be poisoned as well. The working draft of the Teghut Mine does not contain an impact assessment on Debed River and no state expertise has been carried out on this issue. The Ministry of Trade and Economic Development (now renamed Ministry of Energy and Natural Resources) and Ministry of Nature of Protection and the Government of the Republic of Armenia were the ones responsible for giving out licenses and signing documents for provision of mining rights. The following documents shall be found invalid as they were given out with violations of the licensing process<sup>45</sup>:

- *License number HV-MSh-13/33 given to Armenian Copper Programme on 8th of February, 2001 for exploitation of Teghut mine and license number HV-L-14/90 given to Armenian Copper Programme for exploitation of Teghut copper-molybdenum mine on 23.03.2004.*

The provisions of Aarhus Convention and the law “On Environmental Impact Assessment” were violated, as the public was isolated from decision making process. On 29 June–1 July 2011 Meeting of the Parties to the Aarhus Convention (Suprem body of the Convention) affirmed **“Findings and recommendations with regard to communication ACCC/C/2009/43 concerning compliance by Armenia” (adopted by the Compliance Committee on 17 December 2010)** with

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<sup>45</sup> Urgent appeal of Save Teghut Civic Initiative on the Issue of Teghut copper-molybdenum mining project , March,2012 (not published report in progress )



provisions of the Convention in connection with the issuance and renewal of licenses for the exploitation of the Teghut deposit (Ref. ACCC/C/2009/43).

According to Findings of the Aarhus Convention Compliance Committee: “Providing for public participation only after the license has been issued reduced the public’s input to only commenting on how the environmental impact of the mining activity could be mitigated, but precluded the public from having input on the decision on whether the mining activity should be pursued in the first place, as that decision had already been taken. Therefore, the Committee finds that the Party concerned failed to provide for early public participation as required in article 6, paragraph 4, of the Convention.”

- *RA Government’s decision 1278N of 01.11.2007 on Changing the Status of Lands and on Provision of Lands for Operation of the Teghut Copper-Molybdenum Mine.*

Based on the RA Government decision 1278N of 01.11.2007, a total of 200,900 ha of land, which was administered by Teghut and Shnogh villages, were leased to Armenian Copper Programme for 50 years without any tender. At the same time according to RA Land Code state and community lands can be leased out only based on the decision of head of community or the Governor and only through a tender. The Government's decision violated the community's property rights.

- *A special exploration license No. 21 for the exploitation of minerals granted to Armenian Copper Programme on December 29, 2005.*

On December 29, 2005, Armenian Copper Programme was granted a special exploration license No. 21 for the exploitation of minerals without a competition. The license for the exploration

and exploitation of minerals of strategic importance is granted through an auction procedure, or in cases specified by a government decree, also through tender procedure. The list of minerals of strategic importance is approved by the Government of RA. According to the list, all types of metal minerals are classified as minerals of strategic importance. In this case the exploration license was granted without a competition, while the natural mineral resources in the mine are on the list of minerals of strategic importance and thus the special exploration license No. 21 for the exploitation of minerals granted to Armenian Copper Programme on December 29, 2005 was granted with violation of the special requirements of the above-mentioned articles.

- *“Environmental Impact Assessment” (EIA) EE-31 approving conclusions of expertise by the RA Minister of Nature Protection in 03.04.2006 and EE-135 approved conclusions validated by the RA Minister of Nature Protection on 07.11.2006.*

A 1992 manual served as a basis for EIA and Working Plan. In it, the damage is calculated based on 1984 prices ( in USSR currency) for the state decisions on assessment of damage on water , land resources and atmosphere caused by economic activities, as well as methodology of economic damage assessment (respectively in 2003 and 2005). The RA government lacks findings on damage assessment of flora and fauna, as well as natural resources, even though there are internationally accepted methodological manuals for damage calculations. Moreover, the civic law provides a base for economic damage calculations on the initial data provide by the ACP mining company. The manual used by ACP doesn't correspond to the requirements of the RA legislation. The experts used the outdated methodological manual of 1993 which has nothing to do with the current scientific standards, and the monetary evaluations are erroneously based

on 1984 (in USSR currency). Consequently, the results of Environmental Impact Expertise No.EE-31 and EE-135 do not correspond to the principle of scientific validity approved in the 3<sup>rd</sup> point of the EIA law.

A state with disputable decisions and with state bodies that accepted these decisions broke its obligation to the protection and preservation of environment. In particular, the Teghut Mining Project doesn't include any measures that correspond to the national standards of environmental protection and preservation of air, water and land resources, as well as flora and fauna. Some species of animals at the site of Teghut mine are included in the Armenian Red Book.

Thus, the mining industry in Teghut infringes directly the imperative requirements of the 3-rd point of Article 17 of the RA Law on Flora and the 3-rd point of Article 18 of the RA Law on Fauna. The “Environmental Expertise” a non-profit organization of the RA Ministry of Nature Protection was not competent in providing a favorable conclusion on EIA and on the Working Plan of Teghut mine, and RA Ministry of Nature Protection had no legal right to validate such erroneous conclusion.

Thus, at present there is a need for new expertise for starting mining work at Teghut. Notwithstanding that fact, the company started mining processes at Teghut, not following the requirements of the 4th point of Article 11 and without having new conclusions of expertise. The authorities have ignored this breach of law and have allowed for mining activities without further expertise.

### **Threats due to Seismic Instability**

According to article 5 of the EIA law: “During assessment of the planned activity a possible impact on the environment is estimated during construction, operation, liquidation and after liquidation, and also in the extreme situations”. According to the Teghut mine exploitation

project, there are numerous systems of tectonic faults in the mine area. Following the norms of the Republic of Armenia for seismic resistance construction, the above mentioned area is located in the first zone (a high risk of earthquakes, up to eight points on the Richter Magnitude scale, which classifies an earthquake as “Great” and means that it can cause serious damage in areas several hundred kilometers across). According to Article 12 of the RA law "On Seismic Protection", the maps of seismic zoning are a basis for designing of seismic resistance construction standards, land use, elaborating of the population settlement schemes of the Republic of Armenia. The maps of seismic zoning must be taken into account on a mandatory basis when building the cities, settlements, and designing the objects of special, important and general significance. The Government Resolution 237-N of March 13, 2003 establishes a list of critical, important and general purpose facilities in accordance to seismic protection. Critical facilities are those which ensure the sustainable development of the country and their disaster management. Operation disruption of those facilities could lead to unpredictable consequences for communities and the environment. The mining complex of Teghut is considered as “Critical” and “Important” facilities. Thus, the expertise of seismic danger and seismic risk is obligatory for mining activity in Teghut. However, the data on the results of the evaluation of seismic danger and seismic risk are not presented in the mining project. So only the fact that the mine is located in an extremely active seismic zone is registered, while the issue of seismic risks as a result of explosions or during exploitation has not become a subject for further expertise. Thus, the RA law "On Seismic Protection" was flagrantly violated.<sup>46</sup>

### **Threats to Historical and Cultural Heritage**

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<sup>46</sup> Save Teghut Civic Initiative, “Urgent appeal on the Issue of Teghut copper-molybdenum mining project”, 2012

According to the article 5 of the EIA law: “During assessment of the planned activity social and economic, environmental and historical and cultural features of the given territory are to be taken into account.” According to the Article 11 of the RA, Historical and Cultural Monuments and other cultural assets are under the care and protection of the state. A number of valuable historical monuments and artifacts are to be destroyed and lost as a consequence of the mining project in Teghut. Since 2009, a group of fourteen archeologists have been doing excavation in Teghut. Dr. Suren Hobosyan, from the Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia (NAS), is the leader of the archaeological expedition in Teghut. He argues that on the territory of around 1500 hectares of Teghut they have disclosed artifacts as old as 5000 years and remnants of early Bronze Age settlements as well as a church. This is quite a significant discovery for the history of Armenians and these findings are registered as new findings by the State Agency for Protection of Monuments. The excavation efforts are still in progress and new cultural discoveries of significant importance are being disclosed.<sup>47</sup>

### ***Summary of Laws and Policies which Cause Human Rights Violations<sup>48</sup>***

- a) According to the 33.2 article of the RA Constitution, each person has the right to live in the environment contributing to his/her health and welfare. As seen from this constitutional norm, the condition of the environment is valued especially in terms of its impact on person’s health and welfare. Contrary to the RA Constitution, while carrying

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<sup>47</sup> Interviews of Dr. Suren Hobosyan, leader of the archaeological expedition in Teghut, Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia (NAS):  
<http://www.yerkir.am/am/news/19101.htm>, <http://mediagid.am/am/news/hushardzannery-vtangvac-en-245503>,  
<http://www.aravot.am/en/2012/01/26/31166/>

<sup>48</sup> Urgent appeal of Save Teghut Civic Initiative on the Issue of Teghut copper-molybdenum mining project ,  
March,2012

out the expertise on the impact on the environment, the impact of the planned activity on a person's health was not studied deeply, was not subjected to expertise and was not assessed at all.

- b) The Aarhus Convention Compliance Committee found that the Party concerned failed to inform the public in advance for the purpose of making an environmental or in a timely manner as required by the Convention.
- c) The impact of the planned activity extends further across the RA border<sup>49</sup>, which is regulated by the “Convention on Environmental *Impact Assessment* in a Transboundary Context” (Espoo Convention). In this respect, the decision on permitting the mining activity should have been taken by the Government of the RA, whereas the decision was made by RA Ministry of Nature Protection, which had no authority to make decisions.

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<sup>49</sup> Shnogh river flows into Debed River, which is a transboundary river flowing from Armenia to Georgia

## **Legislative problems**

1. The payments for utilization of natural resources and royalties (the fees for mining activities) are very low and they compose 20 % of market price of natural resources. The 80 % of revenue falls to the exploiting organization. It stimulates to perform mining activities savagely at the expenses of other sectors of economy which disappear or suffer as a result of mining activities (e.g. recreation and resort fields, tourism, agriculture etc., Mining Code of RA, Article 6 Payments for the utilization of environmental and natural resources).
2. The law doesn't limit the exploiting size of nonrenewable natural resources and as a result the mines are very rapidly consumed violating Constitution and the principles of reasonable utilization which are set out by the Concept of sustainable development. (Mining Code of RA, Article 53-54)
3. The law doesn't define the complex economic calculation of damage to the environment which is caused by mining activities, it even doesn't define the mechanism and methods clearly, that is why exploiting companies use old manuals (e.g. For the exploitation of Teghut mine they have used a manual published in 1992, in which the economic loss calculation is defined by USSR rubles). (Mining Code of RA, Law on "Environmental Impact Assessment").
4. The law doesn't provide any opportunity and mechanism as a compensation of economic wrecking, thus the exploiter has got rights to destroy the natural environment which costs much more than the benefits it is going to gain. So in this way it causes economic disproportionate harms to state and society.
5. The mining wastes are not taxed. The taxation of the mining wastes can have a preventive meaning that will lessen the size of exploitation of natural resources. (RA Law on Waste, article 2)

6. The tailings are out of private ownership and they consider being national properties. The exploiting companies are not responsible for the tailings after exploitation of the natural resources. After the recultivation of tailings the state is responsible for other necessary expenditures for securing safety of the tailings from seismic and other kinds of ecological threats on the means of tax-payers.

7. There is no insurance institute for the environmental risks caused by these tailings if the mining activities make default. As a result of price fluctuations in the international markets the mining exploitations can be not beneficial and even the exploiting companies can become bankrupt. In these situations the society must procure all necessary expenses for the environmental restoration and security.

8. The legislation does not provide for health insurance or compensations for any harm caused during mining activities. Moreover, in affected communities there are no studies or assessments about residents' health conditions or causes of diseases. So as a result, the population suffers from harmful effects of toxic materials. However, they are not properly diagnosed and people don't get any reimbursement or compensation to cure their illnesses.

9. The mining companies are not obligated to exploit all multi-material components, which have an economic significance. Nowadays, as a result of incomplete extraction of these components and impoverishment of the ores, 20-30% of mineral resources are lost, they fill in the tailings. As a consequence, the waste materials are thrown out into the environment.

10. The value of the lands which are given for the mining activities, is determined by the cadastral not by the market price. If these lands, as a result of an economic activity, are removed from the economic balance, so the price of these lands should be determined by the market price



instead of the cadastral price, which should also including the price of lost profits of the natural resources.

11. According to the law there are not any comprehensive assessment criteria about the environmental impacts, that is why the examinations have a formal nature. The documents of the environmental impact assessment include comprehensive and complete information about the planned activities, the impact upon the components, about its proportionality and permissiveness, about the calculation of economic damage and about technological feasibility of the project. Environmental Impact Assessment is a document, which has experimental value and importance, Environmental Impact Expertise is an administrative act, which can be appealed in the court.

12. Though Armenia has adopted the requirements of the Aarhus Convention, however the society and affected communities are isolated from taking part in the decision making processes. The public discussions are formal; meanwhile the society must have a decisive voice in order to build a healthy and prosperous environment according to the Constitution of RA.

13. Though Armenia has adopted the requirements of the Aarhus Convention, however the society is deprived of the right to apply to the court for environmental issues.

14. The entire mining sector is registered in the free economic zones. It is necessary to specify that all the companies registered in the offshore zones and associated with the exploitation of natural resources or with carrying out mining activities, should provide comprehensive information and reports about their economic activities. The payments for natural resources as budgetary allocations should be defined in the budget in a separate line.

15. According to the Aarhus Convention in order to make public participation in decision making process meaningful it is necessary to implement the practice of public referendum and surveys, as well as the public must have a decisive voice in environmental protection issues. The

affected population of the regions and communities must have a right to forbid all activities causing harm to the environment and no matter what kind of harm it can have on the community.

## **Conclusion and Recommendations**

Thus, the following offenses have occurred by granting a license for the exploitation of the Teghut mine:

- 1) The licensing process was accompanied by gross violations of the law (violations were so flagrant that it obviously contained large-scale corruption risks).
- 2) Inefficient use of natural resources (only copper and molybdenum have been exploited from the mine, although there are other metals in the mine; this caused economic loss which is not calculated. Similarly, the constitutional requirement for reasonable use of natural resources has not been met in the case of the exploitation of the mine.
- 3) The Environmental Impact Assessment has been implemented and approved by the RA Minister of Nature Protection with gross violations of legislation - the Assessment has been done using the outdated methodical guide of 1992 and using the prices operating in 1984, which seems to be absurd in itself. The assessment of environmental impact in regard to the transboundary context has not been conducted, while it is obvious that the neighboring country – Republic of Georgia is also located in the zone of harmful impact.
- 4) The fact that there are animals and plants in this area registered in the Red Book has not been taken in account. Any activity which can result the reduction in the number of animals registered in the Red Book is prohibited by legislation of the Republic of Armenia.
- 5) The alternative plans for the exploitation of the mine have not been provided in the working plan or EIA though it is a legislative requirement (any justifications for mine

exploitation in open or closed mode, opportunities for the development of organic agriculture, eco and ethnic tourism in the same area besides of mine exploitation have not been provided as well as the privileges of mine exploitation in comparison to the above mentioned spheres of activities).

6) There are mistakes in the calculation of economic damage (in the case of counting the economic damage according to the existing legislation, the economic damage will be dozens of times higher than the figures mentioned in the presented project for mine exploitation).

Hence, the current Armenian legislation is too lax for mining companies thus allowing: mining in forest areas thus adding to the deforestation process and contamination of land and water resources; low income and environmental taxes for mining companies; unclear and outdated methodologies for estimating environmental damage.

Therefore, taking account the mention concerns above, the government of Armenia should:

1. Urgently stop mining in Teghut forest and carry out proper and independent environmental impact assessment;
2. Mining inside the forests must be forbidden. Also, mining must be forbidden in areas containing sources of freshwater and natural water supply/distribution systems. Mining must be forbidden on lands having especial agricultural value.
3. Make necessary changes in order to overcome the shortcomings and loopholes in the Legislation of RA;
4. Adopt strict mining and environmental regulations and higher taxes for mining;
5. Create legislative bases for NGOs in order to defend public interest in the court;

6. Authorize a non-governmental body to monitor the implementation, operation and necessary conditions of the activities having impact on the environment;
7. Before approving a mining project and giving any license to exploiting companies the government in the face of the Ministry of Nature Protection and the Ministry of Energy and Natural resources should carry out proper examination of economic and environmental impact of the project;
8. Reinforce the status of public participation in decision making, conduct awareness campaign and inform the community on problems of desertification, safety and climate change, preservation of biodiversity, etc. and implement educational trainings, workshops and seminars on environmental issues;
9. In case of damage to the environment and to the health and life of the inhabitants the responsible government officials and mining companies must be held accountable;
10. Demand exploitation companies to use new, clean technologies that eliminate or reduce the dangerous impact of the intended activity on the environment;
11. Authorize a non-governmental body to monitor the implementation, operation and necessary conditions of the activities having impact on the environment;
12. Regulate the utilization of current technologies in mining and in ore-processing, in order to extract the useful elements more efficiently and more thoroughly than it's being done now;
13. There should be transparency in all of the procedures, including public involvement and access to resources in order to make informed decisions;

14. Given the catastrophic state of the tailings reservoirs and their toxic effect upon the environment, and the damage caused by them to the health and to the livelihoods of the surrounding communities, the Government of RA should take measures to isolate these reservoirs from the environment as much as it is technically possible;
15. Setup a governmental body that will provide material compensation to the communities surrounding tailings reservoirs for the loss of their health and dignity, compensate the communities for the lands occupied by the toxic reservoirs, as well as for the lands degraded and polluted by these reservoirs;
16. A limit must be set as to how much mining is permissible, both in the number of mines and the size of each mine; also it must be decided which mines to exploit, which mines to leave for future exploitation, how much a mineral element can be mined annually, how much of the mineral resource can be depleted annually, etc.;
17. Also, use technologies that allow recycling the minerals wasted in the tailings reservoirs, thus slowing the pace of the exploitation of new mines.

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